FileMaker® Pro 12

Tutorial

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Edition: 01

Contents

Lesson 1
FileMaker Pro basics

Welcome to the FileMaker® Pro tutorial. This tutorial shows you how you can manage your information in FileMaker Pro.

You will learn how to use FileMaker Pro software to:

- locate and sort information
- create and enter records in a simple database
- create mailing labels
- create calculations, buttons, and scripts
- create and run reports
- display data graphically in a chart
- create relationships between FileMaker Pro database tables
- learn how files can be shared with other users on your network or over the internet
- protect information in your database by assigning user accounts and privilege sets and by backing up your databases

It takes approximately five hours to complete this tutorial, which can be done in one session or several shorter sessions.

How to use this tutorial

These lessons are based on the customer database of a fictitious business named Favorite Bakery. Customers can pay an annual fee to receive a discount on all orders. Favorite Bakery uses FileMaker Pro to track the customer names, addresses, and discount program enrollment status, and to generate labels and form letters to contact customers.

You must complete these lessons sequentially, as concepts introduced in early lessons are assumed to be understood in later lessons. The sample file that you work in progresses through the lessons.

This tutorial assumes that you are familiar with your computer's operating system. Opening files, locating folders, and other activities that require some knowledge of your computer's OS are a necessary part of completing this tutorial.

Because using FileMaker Pro is the most effective way to learn the application, each lesson features a hands-on activity designed to guide you through menus, screens, and concepts step by step.

The file included with this tutorial is intended to illustrate the features of FileMaker Pro, and might be unsuitable for use as a template for further development. FileMaker Pro also includes *Starter Solutions*. To create a database using a Starter Solution in FileMaker Pro, choose **File** menu > **New From Starter Solution**.

Note Some procedures refer to using a shortcut menu. To display a shortcut menu (context menu), right-click or Control-click an object or area to see a list of commands. You can use the Control Panel (Windows) or System Preferences (Mac OS) to configure your mouse, trackpad, or input device. For example, you can set up a secondary button on a mouse or a secondary click on a trackpad.

To send your feedback on this guide, see:
http://www.filemaker.com/company/documentation_feedback.html.

Where to find the sample file

The sample file contains data for Favorite Bakery and provides a place for you to practice building the database elements that are described in each lesson. If you need to start over, replace your existing sample file with a new copy. If the sample file was installed, it is in:

FileMaker Pro 12/English Extras/Tutorial

or

FileMaker Pro 12 Advanced/English Extras/Tutorial

You can also download the sample file from the FileMaker website by visiting:
http://www.filemaker.com/documentation.

Database concepts

What is a database?

A *database* is a method of organizing and analyzing information. You've probably used several databases recently without realizing it. A date book, a parts list, and even your own address book are databases.

Why use a database?

Storing information in a database file has many benefits. A database doesn't just hold information—it helps you organize and analyze the information in different ways. For example, databases allow you to group information for reports, sort information for mailing labels, count your inventory, or quickly find a particular invoice.

Computerized databases offer many additional advantages over their paper-based counterparts: speed, reliability, precision, and the ability to automate many repetitive tasks.

How is a database organized?

A database file is organized into one or more *tables*. Tables store *records*. Each record is a collection of *fields*.

Imagine your address book is a FileMaker Pro database file. Each listing in your address book is one record in an Address Book table. Each record has information, such as name, address, city, and so on. Each of these pieces of information—name, address, and city—is stored in a separate field.

How is field data displayed?

FileMaker Pro displays fields on *layouts*. Each layout is based on a single table, and displays records from that table.

Imagine that your database has a Tasks table in addition to the Address Book table. A layout based on the Address Book table will display fields and records from the Address Book table. A layout based on the Tasks table will display fields and records from the Tasks table.

FileMaker Pro basics

FileMaker Pro is a *cross-platform* application. Files created on a Mac can be opened in FileMaker Pro on a computer running Windows, and vice versa. You can also use FileMaker Go to display FileMaker Pro files on an iPad or iPhone, or use a web browser to display files published on the web.

Unlike most word processing or spreadsheet programs, FileMaker Pro saves your work automatically. Consequently, it's important to carefully consider your actions when making sweeping changes to your files, especially when deleting records. Once records are deleted, they are completely removed from your database.

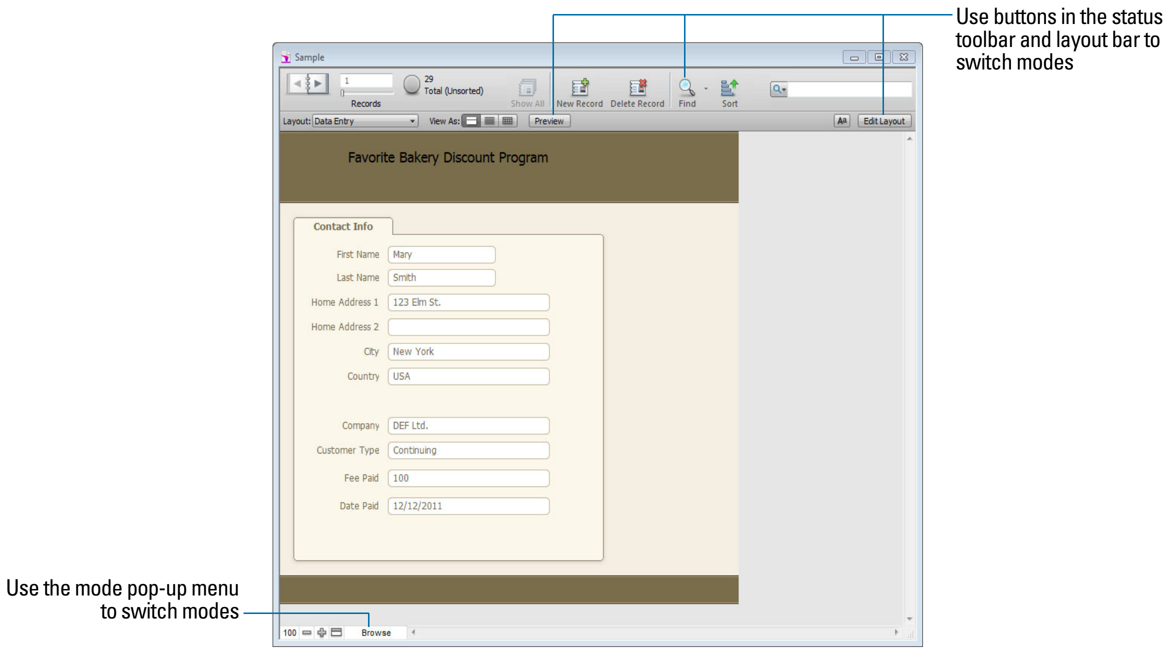
As you will learn in lesson 14, you should back up your files on a regular basis. Backups can save you many hours of unnecessary work and worry in the event that your files become lost or damaged, or records are inadvertently deleted.

About FileMaker Pro modes

When you work in FileMaker Pro, you work in one of four *modes*.

- Use *Browse mode* to enter data and view records.
- Use *Find mode* to locate a record or a group of records.
- Use *Layout mode* to specify how information will appear on the screen or when you print it.
- Use *Preview mode* to see what the pages will look like when you print them.

After you have opened a database, you can switch from one mode to another using either the View menu, buttons in the status toolbar and layout bar, or the mode pop-up menu at the bottom of the application window.



For more information

For more information on FileMaker Pro basic concepts, see chapters 1 and 2 in the *FileMaker Pro User's Guide*.

You can also find comprehensive information about procedures and concepts in FileMaker Pro Help. To access FileMaker Pro Help, choose **Help** menu > **FileMaker Pro Help.**

To access the FileMaker Resource Center on the web, choose **Help** menu > **Resource Center**.

Lesson 2
Browsing information

You view, enter, or change data in Browse mode. This is the simplest way to interact with your database.

In this lesson you will:

- open a database with data already in it
- move between records
- view information in different ways by switching layouts
- see the difference between *Form View*, *List View*, and *Table View*
- explore the status toolbar
- save a copy of the database

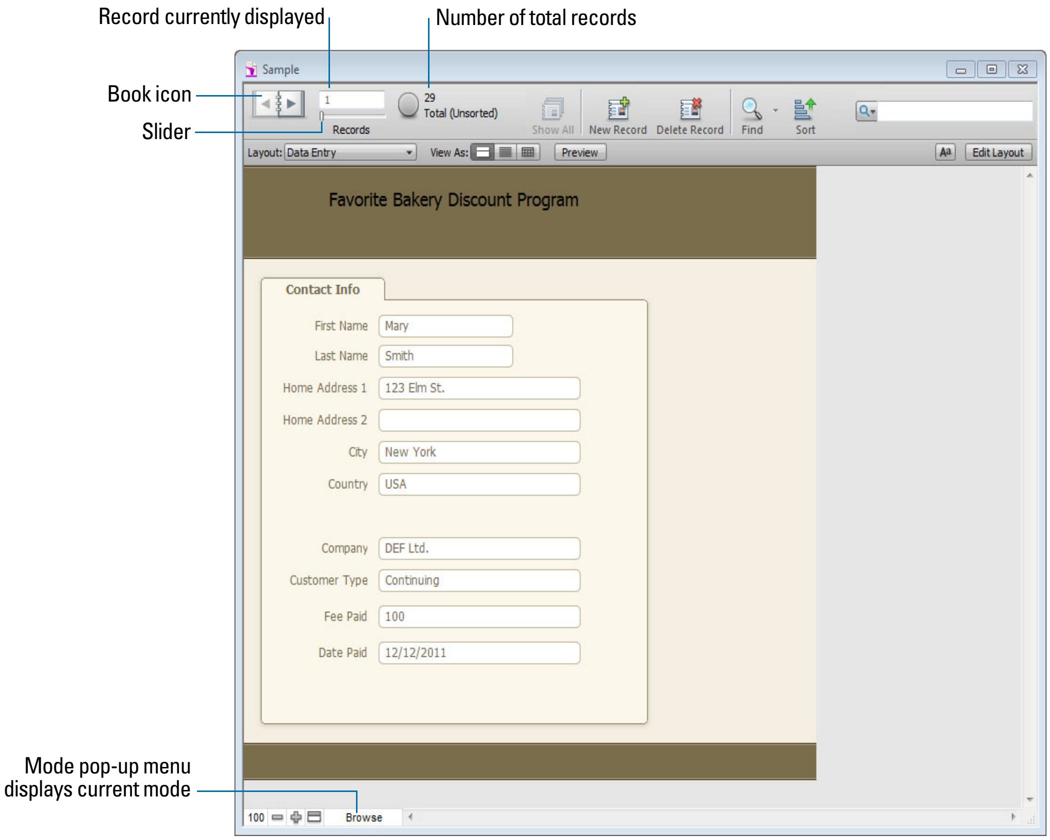
Open a database and move between records

To open the sample database:

1. Open the Tutorial folder on your hard drive. For the tutorial folder location, see “Where to find the sample file” on page 8.

2. Open Sample.fmp12.

- The database is in Browse mode. FileMaker Pro defaults to Browse mode when a database is opened.
- The status toolbar shows there are 29 records in the sample database. The first record is displayed.



3. Click the right page of the book icon to move forward one record at a time, and click the left page to move backward one record at a time.

4. Drag the slider to the right and release to move forward a number of records at one time. Drag the slider to the left and release to move backward a number of records.

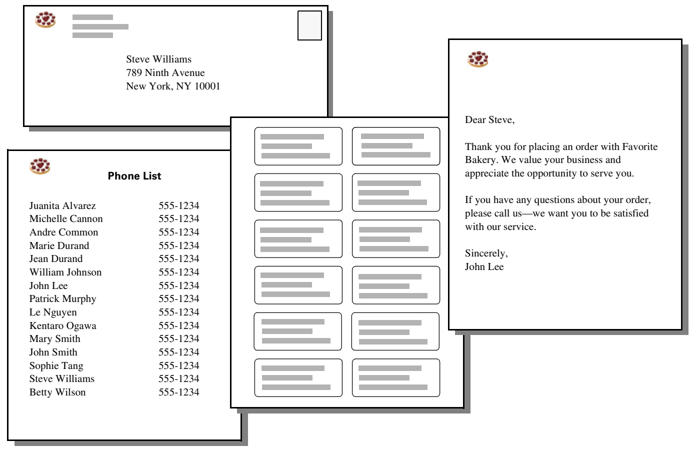
You can also click the current record number, type the record number you want, then press Enter (Windows) or Return (Mac OS) to go to a specific record in the database.

Tip The **Records** menu also provides commands to move between records. Choose **Records** menu > **Go to Record** and choose either **Next**, **Previous**, or **Go To**.

View information in different ways

Even though you enter information only once in FileMaker Pro, you can use that information in many ways. Layouts let you view some or all of your fields.

Because it is not necessary to see all of your fields in each layout, layouts are a powerful tool for working with or printing just the information you need to accomplish a particular task.

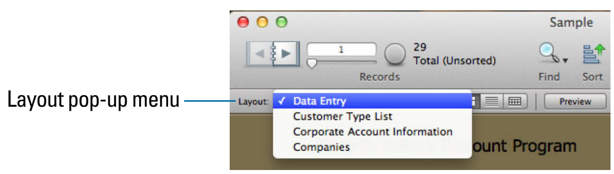


The same data can be arranged differently with multiple layouts

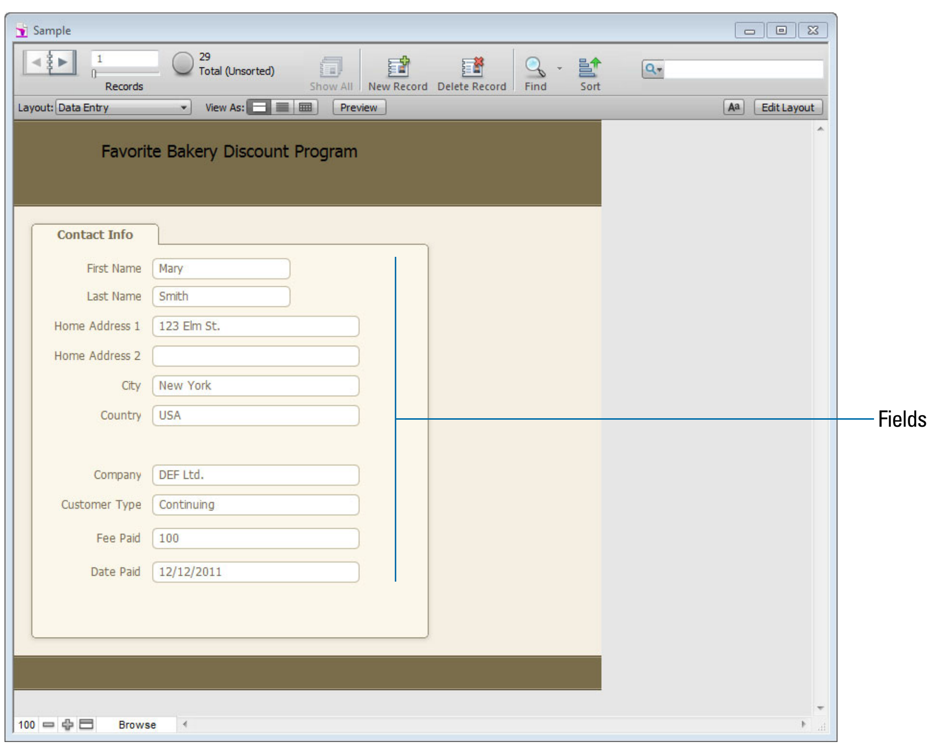
See a different layout

To see some layouts in action, use the file you just opened.

1. Click the Layout pop-up menu, located in the layout bar. A list appears showing the layouts available in this file.

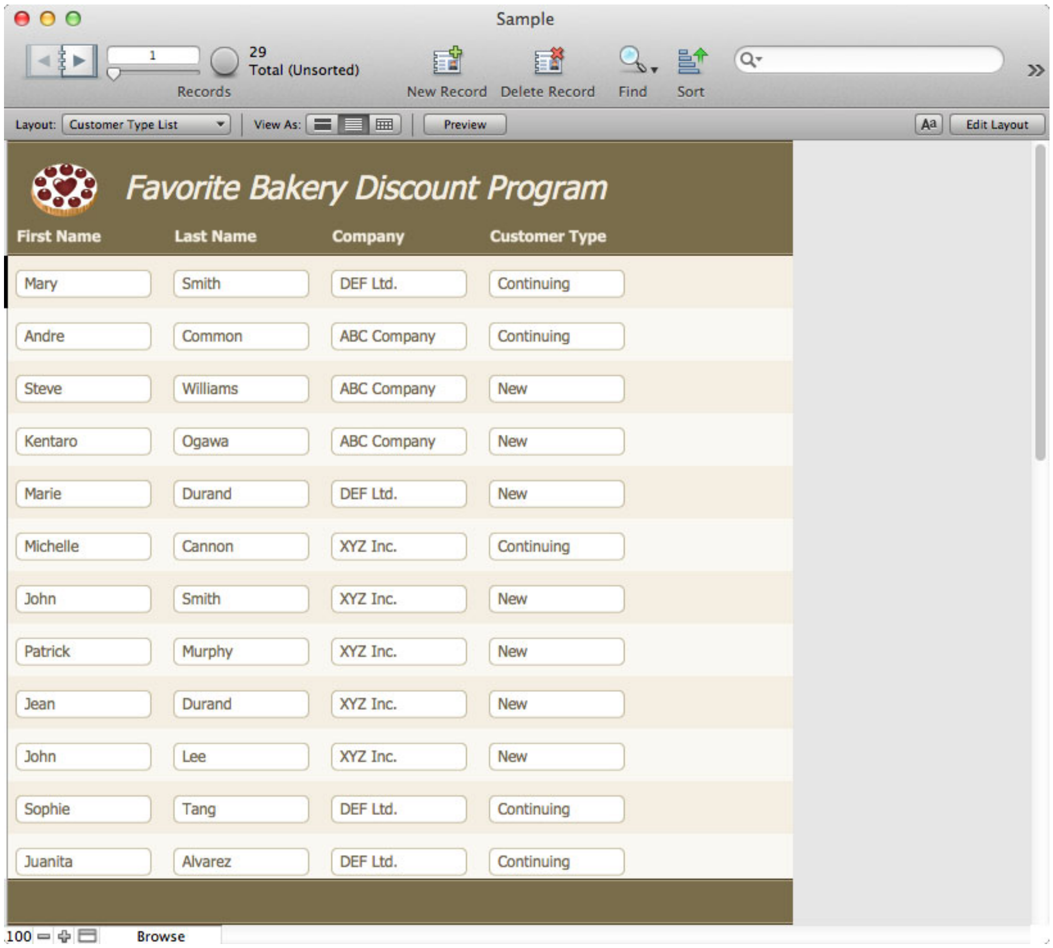


The check mark next to the Data Entry layout indicates the current layout. The Data Entry layout shows most of the fields in the Customers table.



2. Choose the **Customer Type List** layout from the Layout pop-up menu.

This layout shows each record as one row in a columnar list. Notice that the Customer Type List layout contains only four of the fields that were present in the Data Entry layout. Because fewer fields are present on this layout, some data is simply not displayed. However, no data has been removed from the database.



The Customer Type List layout displays only four of the fields present on the Data Entry layout

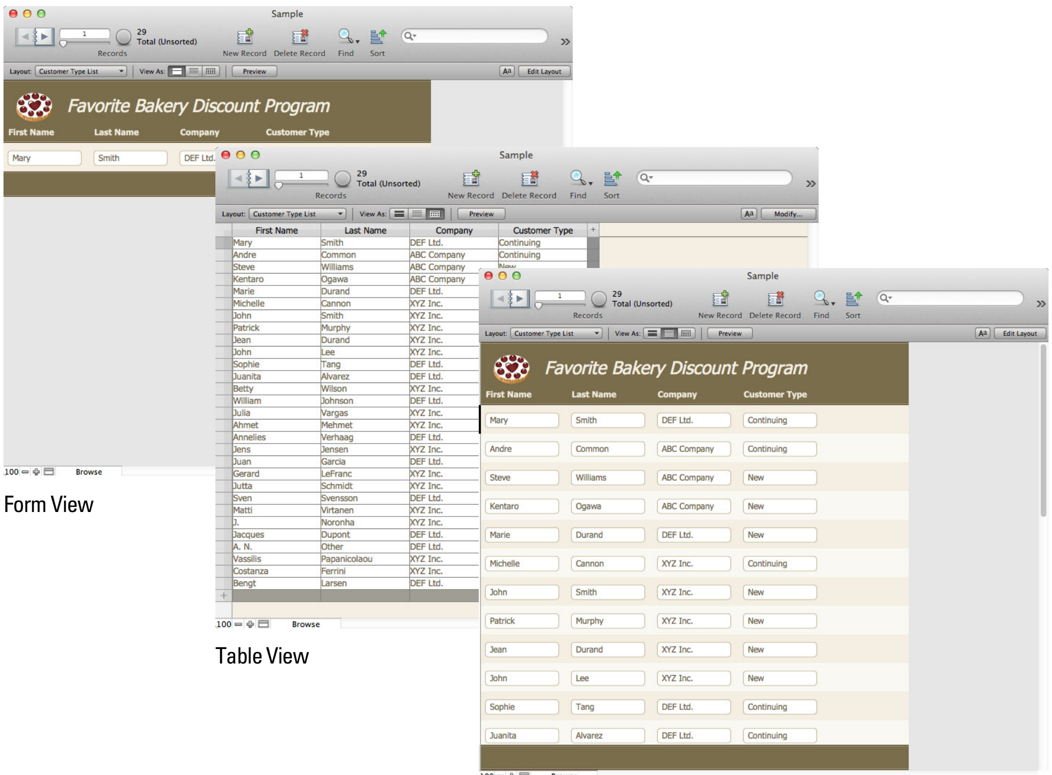
3. Go to the Layout pop-up menu and return to the Data Entry layout. No data has been lost.

View your layouts as forms, lists, and tables

You can view your layouts in three different ways: as a form, as a list, and as a table.

- Form View displays your current layout one record at a time.
- List View shows your current layout as a list, with one record appearing beneath another.
- Table View shows you many records at one time in a grid.

Generally, layouts can be toggled between Form View, Table View, and List View while the database is in Browse mode.



Form View

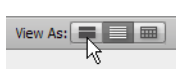
Table View

List View

The Customer Type List layout, viewed as a form, then as a table, and then as a list

Switch between Form View, Table View, and List View in the same layout to see how they are different.

1. In the sample file, switch to the Customer Type List layout. You see many records, displayed as a list.

2. Click **Form View**  in the layout bar.

You now see a single record, displayed in the same layout. Only the viewing option has changed.

3. Click **Table View**  in the layout bar.

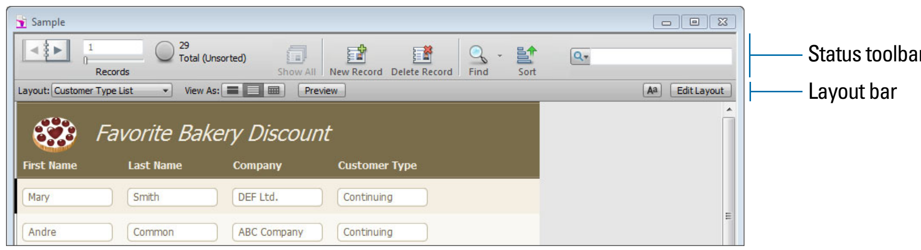
The View as Table feature allows you to view many records at once in a grid.

4. Click **List View**  in the layout bar to return to List View.

Scroll down to display more records in List View.

Explore the status toolbar and layout bar

The status toolbar at the top of the FileMaker Pro window gives you quick access to FileMaker Pro menu commands you use often. The default buttons on the toolbar vary, depending on which mode you are in. You can add and remove buttons to customize the status toolbar in any mode. The layout bar below the status toolbar helps you quickly switch between layouts and views. Other controls on the layout bar vary according to the mode you're in.



Status toolbar and layout bar in Browse mode

Find out what status toolbar buttons do

- Move the pointer over buttons on the status toolbar.

  A tooltip appears for each button and describes its use.

Customize the status toolbar

You can use the status toolbar as is, or you can add and remove buttons.

To add a button to the status toolbar:

1. Click **View** menu > **Customize Status Toolbar**.

2. Do one of the following:

  - Windows: In the dialog box, select the **Commands** tab.
  - Mac OS: Continue with step 3.

3. Drag **Print** from the Commands list (Windows) or the dialog box (Mac OS) to the status toolbar.

To remove a button from the status toolbar:

- Drag the **Sort** button from the status toolbar to the dialog box.

To reset the toolbar so it displays only the default buttons:

1. Do one of the following:

  - Windows: In the **Toolbars** tab, select **Status Toolbar**, click **Reset**, then **OK**.
  - Mac OS: Drag the default button set near the bottom of the dialog box to the status toolbar.

  The **Print** button is removed and the **Sort** button is restored.

2. When you are finished, click **Close** (Windows) or **Done** (Mac OS) in the dialog box.

Save a copy of the sample file

You will use a copy of the sample file in the lessons ahead.

To save a copy of the sample file:

1. Choose **File** menu > **Save a Copy As**.
2. Select the Tutorial folder as the location for the copy.

   Sample Copy.fmp12 is automatically entered as the filename.
3. Click **Save**.
4. When you are finished with this lesson, close the original sample file by choosing **File** menu > **Close**.

For more information

You have opened a database, browsed through records, switched layouts, learned the differences between Form View, List View, and Table View, and explored the status toolbar and layout bar. You have also created a copy of a database that contains data. For more about browsing information in FileMaker Pro, see chapter 2 of the *FileMaker Pro User's Guide*.

Lesson 3
Finding and sorting records

Your database is a collection of records. Sometimes you'll work with all of the records in the database (mailing an annual catalog to each customer, for example). Often, however, you'll work with a subset of your database—people who come from a particular city, for example, or records that fall within a particular range of dates.

In FileMaker Pro, this process of searching for records that match particular criteria is called *finding* records. Once you've found the records you want to work with, you can change their order by *sorting* them. Records can be sorted in ascending or descending order.

In this lesson, you will:

- use Browse mode to find records that have:
  - matching data in any field using quick find
  - matching data in a single field
- use Find mode to:
  - find records that have matching data in specific multiple fields
  - find records matching a range of data
  - narrow your searches by omitting records
  - save a find request, modify it, and use the new request to locate different records
- sort records in ascending order (a to z) and add a new record in sorted order

Note Verify that you have Sample Copy.fmp12 before beginning this lesson. See lesson 2 for information on accessing the Tutorial folder and making a copy of Sample.fmp12.

Use quick find to search a database

Quick find gives you an easy way to search across all fields on the current layout.

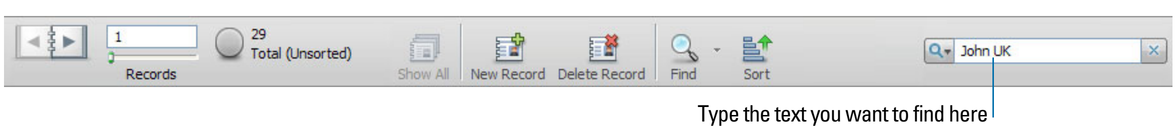
Find all records for customers named John who are located in the UK.

1. Open Sample Copy.fmp12, located in the Tutorial folder.

The database is in Browse mode and the active layout is Data Entry.

You can use quick find to search for common text located in different fields in a database.

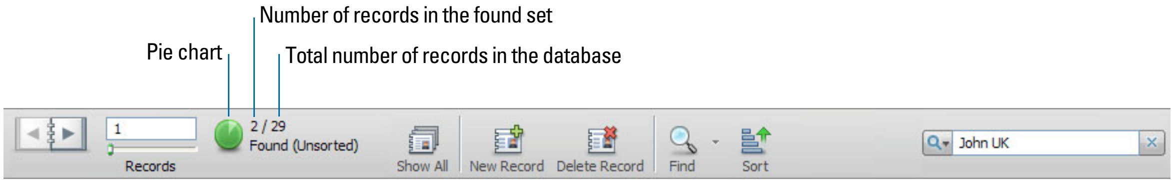
2. Type `John UK` in the quick find search text box in the upper-right corner of the status toolbar.



If you don't see the search box, resize the FileMaker Pro window to make it wider.

3. Press Enter (Windows) or Return (Mac OS).

The result of your quick find search is the *found set*. The pie chart in the status toolbar shows the found set as a portion of all the records in the database.



4. Click the book icon or slider to view the two records in the found set.

Your quick find search returned records for John Lee (First Name field) from St. Johns Circle (Home Address 1 field) located in the UK (Country field) and William Johnson (Last Name field) located in the UK (Country field), but not John Smith, whose record does not contain the text "UK" in any field. This type of search is commonly referred to as an AND search, because records must contain both "John" *and* "UK."

Find records based on criteria in a single field

You can use a shortcut menu to find matching data in a particular field. Now find all of the customers that are located in New York City.

1. Click **Show All** in the status toolbar to restore all records to the found set.

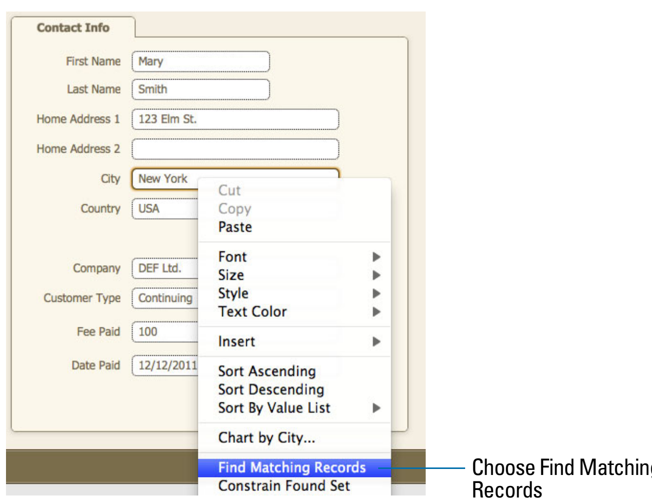
The pie chart once again shows the found set contains 29 records.

Note It is not necessary to click **Show All** before performing a Find, as FileMaker Pro finds records from the entire database by default.

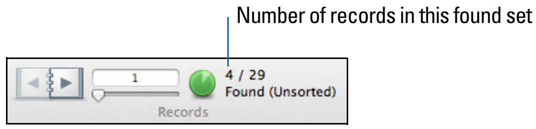
2. Drag the slider to the left to display the first record in the database (Mary Smith located in the USA).

3. Right-click (Windows) or Control-click (Mac OS) the City field.

4. From the shortcut menu, choose **Find Matching Records**.



Your find request returns records for the four customers who live in New York. The pie chart shows the found set has changed to 4 records.



5. Click the book icon or slider to view each of the four records in the found set.

Find records based on criteria in specific separate fields

You can find records that match multiple criteria, for example customers who are both from the United States and are new customers.

Here again you create an AND search. To perform an AND search in Find mode, type each search criterion directly into the appropriate field.

To find all customers who live in the United States and are new customers:

1. Click **Find** in the status toolbar.

FileMaker Pro switches to Find mode. In Find mode, you create a find request using the fields marked with a 🔍. Type the criteria you want to search for directly into the fields on the request.

2. Type `USA` in the Country field.

3. Type `New` in the Customer Type field.

4. Click **Perform Find** in the status toolbar.

Your find request returns a found set of two records for the two new customers located in the United States.

Find records that match multiple criteria in the same field

Sometimes you need to find records that match more than one criterion in a single field. For example, you may need to find all customers located in either New York or London. This type of search is commonly referred to as an OR search, because your found set will consist of records that match any one of the find criteria.

To perform an OR search in FileMaker Pro, you will need to use multiple find requests.

- Type the first search criterion into the appropriate field of the first find request.
- Create a second find request and enter the second search criterion in the same field.

When you click the **Perform Find** button, FileMaker Pro retrieves all of the records that match any of the criteria you've entered.

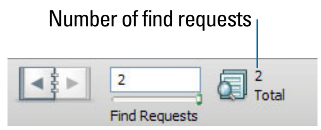
To find all customers living in New York or London:

1. Click **Find** in the status toolbar.

2. Type `New York` in the City field.

3. Click **New Request** in the status toolbar.

Notice that the status toolbar shows that there are currently two find requests.



4. Type `London` in the City field of this second request.

5. Click **Perform Find** in the status toolbar.

Your find request returns a found set of six records for six customers located in either New York or London.

Find records that match a range of criteria in the same field

Sometimes, you might want to find records that match a range of criteria within a single field. For example, you might want to find all of the records that fall within a one-month period, or locate all of the sales invoices numbered between 500 and 1000.

To perform this type of search in FileMaker Pro, you use a special range symbol in your find request to specify the lower and upper limits of your find criteria.

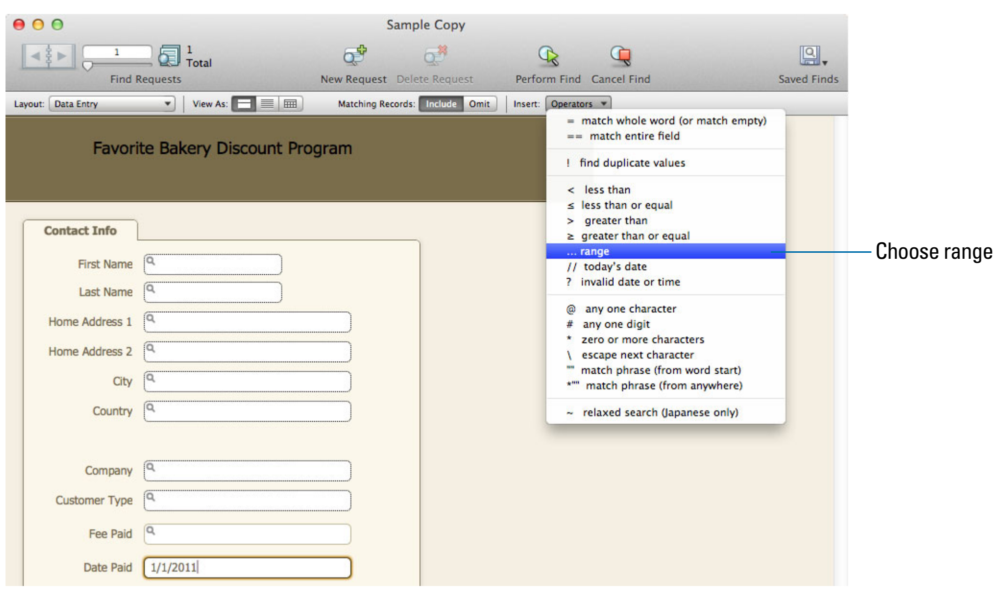
To find the customers who paid their annual fee between January 1, 2011 and June 30, 2011:

1. Click **Find**.

2. Type `1/1/2011` in the Date Paid field.

Note FileMaker Pro uses the date format specified in your system settings, so the date format you see and enter might differ from the format shown in this tutorial.

3. In the layout bar, click **Operators** and choose **range** from the list.



Tip Alternatively, you can type any operator from the menu directly into a search field.

Your find request should now have `1/1/2011...` in the Date Paid field.

4. Immediately after the ellipsis (...), type `6/30/2011`.

5. Click **Perform Find**.

Your search returns six records, for six customers who paid their fees within the first six months of the year 2011.

Narrow your search

Sometimes, you might need to find records that match certain criteria while at the same time excluding others (for example, finding all of the records that were added in a given year except for those added in a particular month, or finding all customers who reside in the United States, except for those in New York City). You can perform these types of finds by using a combination of multiple find requests and omitting certain records.

Because FileMaker Pro processes multiple find requests in the order they are created, it is possible to create very specific, layered searches in this manner. Omitting records in a search does not delete them from the database.

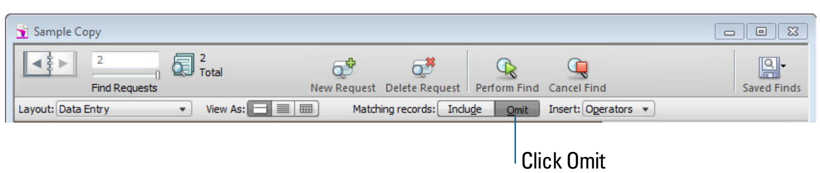
To find the records of customers who paid their fees in 2011, except for the customers who paid their fees in March:

1. Click **Find**.

2. Type `2011` in the Date Paid field.

3. Click **New Request**. Notice that the status toolbar shows that this is the second find request in this database search.

4. Click **Omit** in the layout bar to have FileMaker Pro exclude any records in the found set that fit the criteria of this second find request.



5. Type `3/1/2011` in the Date Paid field.

6. Click **Operators**, then select **range** from the list.

7. After the ellipsis, type `3/31/2011` in the Date Paid field to exclude customers who paid at any time during the month of March.

8. Click **Perform Find**.

Your search returns 11 records for 11 customers who paid their fees in 2011, except the customers who paid during the month of March.

Save a find request to use later

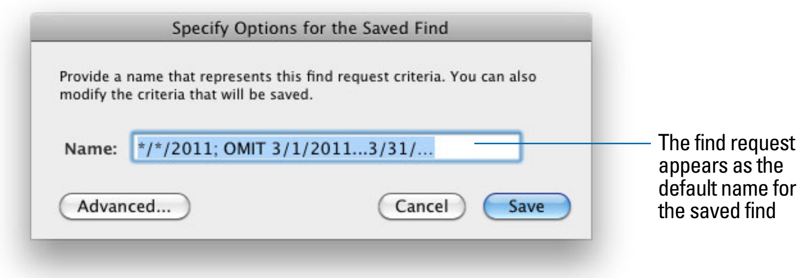
If you create a complex find request that you plan to use repeatedly, you can save it as a saved find. You can then quickly and easily perform the find request from either Browse mode or Find mode.

To save your last find request:

1. Do one of the following:

- Windows: Click the down arrow to the right of the **Find** button and choose **Save Current Find**.
- Mac OS: Click and hold the **Find** button, then choose **Save Current Find**.

Your last find request appears in the Specify Options for the Saved Find dialog box.



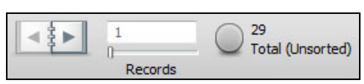
2. For Name, type `2011 Fees Paid, Except March` and click **Save**.

Find records using a saved find

To run your saved find request:

1. In Browse mode, click **Show All** in the status toolbar.

The pie chart in the status toolbar once again shows the total number of records in the sample file.



2. Do one of the following:

- Windows: Click the down arrow to the right of the **Find** button, and under **Saved Finds**, choose **2011 Fees Paid, Except March**.
- Mac OS: Click and hold the **Find** button, and under **Saved Finds** choose **2011 Fees Paid, Except March**.

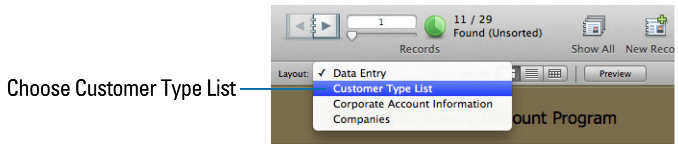
Once again, only the 11 records meeting the criteria you specified in your saved find appear.

Sort your found set

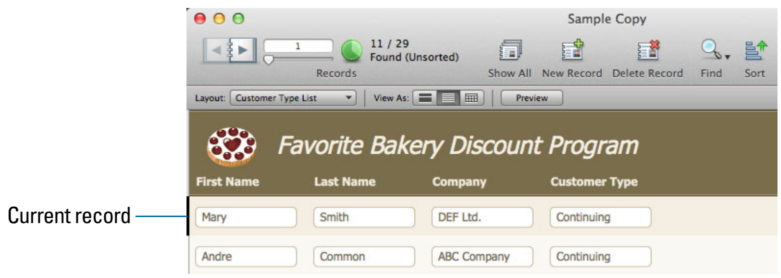
After you have a found set of records to work with, you might want to sort those records. For example, you might want to display the records in alphabetical order, or sort them from newest to oldest.

To sort records in alphabetical order by the customers' last names:

1. In the layout bar, click the Layout pop-up menu and choose **Customer Type List**.



The Customer Type List layout appears. This layout will make it easier to see the results of the sorting. The black bar to the left of the record for Mary Smith indicates it is the current record in the found set.

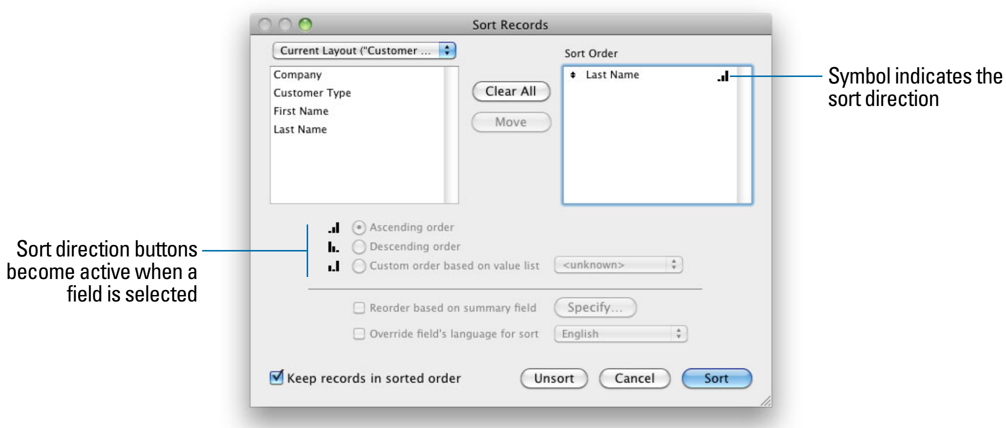


2. Click **Sort** in the status toolbar.

The Sort Records dialog box appears.

3. If any fields appear in the Sort Order column on the right side of the dialog box, click **Clear All.**

4. In the list of available fields on the left, select **Last Name** and click **Move**.



The sort direction symbol to the right of the Last Name field increases in size from left to right. This indicates that when the database is sorted by this field, the data will be in ascending order (from a to z).

5. Click **Sort.**

The names in the Customer Type List are now displayed in alphabetical order by last name. The current record is still Mary Smith. This record has moved to its sorted location in the list.

Add a new record in List View

After you have sorted a found set, FileMaker Pro displays new records you add in the appropriate place in the sort order when you *commit* (save) each record in the database.

To add a record and see that it is sorted automatically:

1. Click **New Record** in the status toolbar.

You see a blank record in the Customer Type List layout.

Note Depending on the size of your FileMaker Pro window, you might have to scroll down to see the blank record.

2. For **First Name**, type `Connel`; for **Last Name**, type `Jordan`; for **Company**, type `DEF Ltd.`; for **Customer Type**, type `New`.

3. Click outside the **Customer Type** field to commit the new record in the database.

The new record appears alphabetically by last name in the list.

4. Choose **Records** menu > **Unsort**.

Records return to the order they were before you sorted the found set and the record you added appears at the bottom of the list. This is the order in which the records are stored in the database.

Tip If you don't want records to change location as you add or edit them, clear **Keep records in sorted order** in the Sort Records dialog box.

5. Select the record for Connel Jordan, if it is not already selected.

6. Click **Delete Record** in the status toolbar, then click **Delete** to remove this record from the sample file.

7. When you are finished with this lesson, close the file by choosing **File** menu > **Close**.

For more information

You have found records based on a variety of criteria, narrowed your searches by omitting specific records, and learned how to save find requests. In addition, you have sorted the result of your final found set and added a new record in sorted order. For more information on finding and sorting records in FileMaker Pro, see chapter 2 of the *FileMaker Pro User's Guide*.

Lesson 4
Creating a database and entering records

In the previous lessons, you saw how to use a simple database with existing data. Now you will create your own file and add records.

In this lesson you will:

- create a simple database
- define fields to hold different types of data
- create records
- enter data
- modify data
- delete records
- insert data in a container field

Create a simple database

About fields

You create a field for each category of information you want, such as First Name or City. To find, sort, calculate, and display data correctly, the field type should match the kind of data it contains (text, number, date, and so on). You will learn about other field types in later lessons.

Create a database

1. In FileMaker Pro, do one of the following:

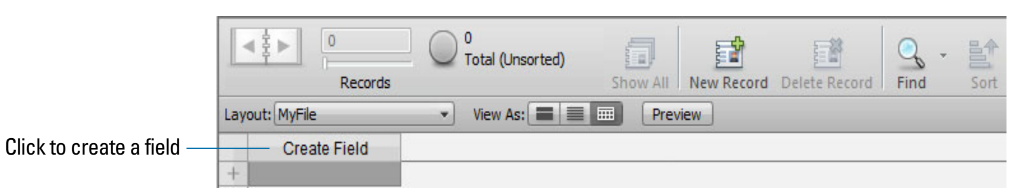
- If you see the FileMaker Quick Start Screen, click **Create a New Database**.
- If you don't see the FileMaker Quick Start Screen, choose **File** menu > **New Database**.

2. Go to the Tutorial folder and select it as the location for this file.

3. Type the file name `MyFile.fmp12`, and click **Save**.

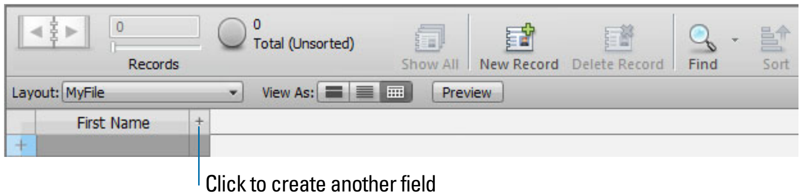
The file opens in Browse mode in Table View. You will now create fields.

4. Click **Create Field**.



5. Type `First Name`.

6. Click **+** to the right of the **First Name** field.



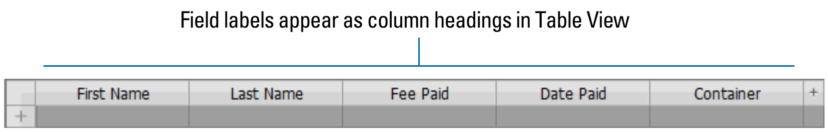
7. Type `Last Name`.

8. Click **+** and type `Fee Paid`.

9. Click **+** and type `Date Paid`.

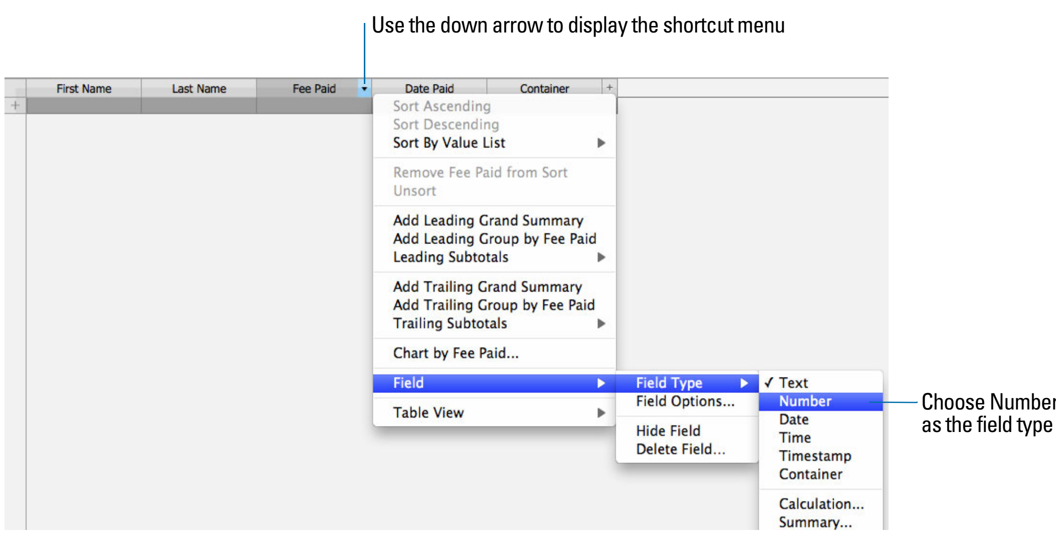
10. Click **+** and type `Container`.

You have created five fields in your database.



Fields created in Table View are the text field type by default. Now you will change the field type of some of the fields you created.

11. Move the pointer over the **Fee Paid** column heading until the down arrow appears. Click the down arrow, then choose **Field** > **Field Type** > **Number**.



12. Move the pointer over the **Date Paid** column heading and click the down arrow. Choose **Field** > **Field Type** > **Date**. Click **OK** to accept the default date format in FileMaker Pro.

13. Move the pointer over the **Container** column heading and click the down arrow. Choose **Field** > **Field Type** > **Container**.

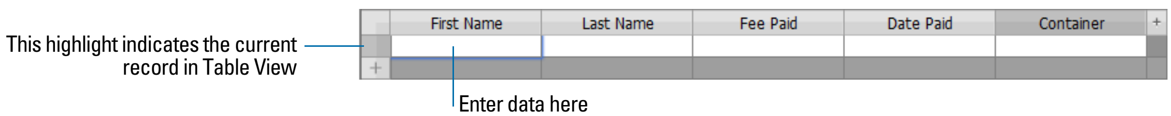
Enter data into the database

Now you can enter data in MyFile.fmp12.

Create the first record

1. Click below the **First Name** column heading.

A new row appears in the table. This is a new, empty record in the database.



2. Type `Jane`.

3. Press Tab to move to the **Last Name** field.

Note FileMaker Pro automatically saves your changes as you work.

4. Type `Doe` in the **Last Name** field.

5. Press Tab and type `25` in **Fee Paid**.

You will learn how to format number fields to display as currency in the next lesson.

6. Press Tab and type `11/11/2011` in **Date Paid**.

Leave the **Container** field empty.

Create another record

1. Click in the row below **Jane** in the **First Name** field to create a new record.

Tip You can also click **New Record** in the status toolbar to create a new record.

2. As you did for Jane Doe's record, enter data for `Antoine Dubois`, who paid `75` dollars on `2/2/2011`.

Your database now contains two records.

Copy data with drag and drop

1. Click in the next row and enter a **First Name** and **Last Name** of your choice.

2. Select **75** in the **Fee Paid** field in record 2.

3. Drag the selected text to the **Fee Paid** field in record 3 and release the mouse.

Note If you can't drag the text, drag and drop might not be enabled in FileMaker Pro. To turn on drag and drop, choose **Edit** menu > **Preferences** (Windows) or **FileMaker Pro** menu > **Preferences** (Mac OS). Under **General**, select **Allow drag and drop text selection**, click **OK**, then repeat steps 2 and 3.

4. Select **2/2/2011** in record 2, then drag and drop it into the **Date Paid** field in record 3.

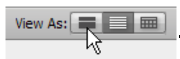
Modify data in a record

Suppose you realize that Jane Doe paid 75 dollars, not 25. You can easily correct the entry.

1. In the record for Jane Doe, click to the right of the **2**, press Backspace (Windows) or Delete (Mac OS), then type `7`.
2. Click outside the field to commit this change in the database.

Enter data in Form View

You can enter data in Form View and List View too.

1. Click **Form View** 

.
2. In the last record you created, select the data in the **Last Name** field and type a different name.
3. Click outside the field to commit the change.

Delete a record

1. Click **Table View** 

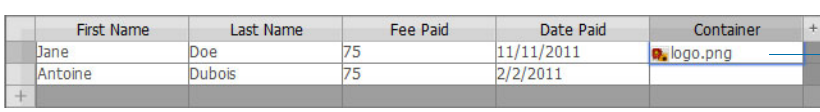
.
2. Select the last record you created by clicking in any field in the record.
3. Click **Delete Record** in the status toolbar.
4. Click **Delete** in the confirmation dialog box.

   The status toolbar indicates only two records remain in the database.

Insert a file in a container field

A *container field* can store photos, movies, sounds you record, and documents, such as Microsoft Word and Excel files, and PDF files.

1. Select the container field in the first record.
2. Choose **Insert** menu > **File**.
3. Choose the logo.png file located in the Tutorial folder.
4. Click **Open** (Windows) or **Insert** (Mac OS).



First Name	Last Name	Fee Paid	Date Paid	Container
Jane	Doe	75	11/11/2011	logo.png
Antoine	Dubois	75	2/2/2011	

The PNG filename and icon are displayed in the container field

   When you insert a file, FileMaker Pro displays the file's icon and name in the container field but not the actual content of the file.

5. When you are finished with this lesson, close the file by choosing **File** menu > **Close**.

For more information

You have created a simple database and defined fields, then added, modified, and deleted records and copied data between records. For more information, see chapters 2 and 3 in the *FileMaker Pro User's Guide*. You will learn more about entering data in different field types and by different methods in lesson 7. For further information, see chapters 2 and 5 in the *FileMaker Pro User's Guide*.

Lesson 5
Customizing what you see

You can enhance the way your data looks by adding graphics and other effects.

In this lesson, you will:

- learn how layouts determine what you see
- add, resize, and move fields
- add a tab panel
- display values in a number field as currency
- change text size, style, and color
- add graphics
- see where to find other ways you can customize a layout

About layouts and tables

Each *layout* is based on a single table, and shows records from that table. If your file contains only one table, all layouts in your file will be based on that table. If your file contains more than one table, you must choose which table your layout will use at the time you create the layout, although you can change this later if necessary.

The table you choose as the basis for your layout is important because it determines which fields and records are available for use on that layout. Fields and records that are not stored in the current table can still be used, but must be accessed through relationships. You'll learn more about relationships in lesson 11, "Making databases relational."

About customizing layouts

You design layouts in *Layout mode*. You can include any combination of fields, text, and graphics on a layout. The appearance of objects and text on a layout are determined by the layout's *theme*. You specify a theme when you create a layout and you can change the theme later, if you want. You can also change how individual items on a layout display (such as objects and text) and the way data appears in number or date fields. For example, you can set a number field to include currency notation, or you can set a date field to include the day of the week with the month, day, and year.

Explore the layout tools and the Inspector

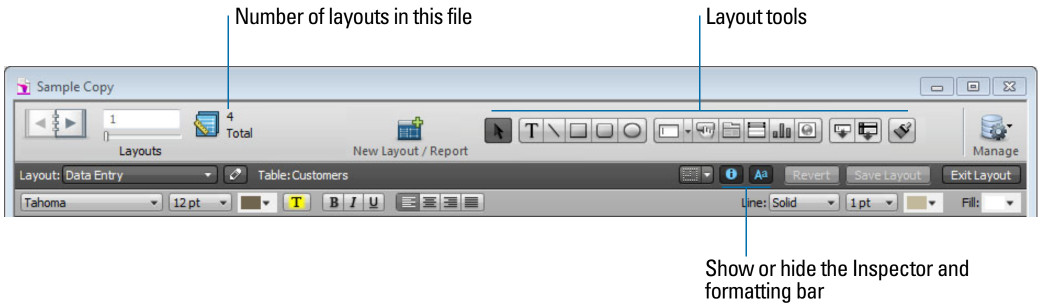
1. Open Sample Copy.fmp12 in the Tutorial folder.

> Tip Because you opened Sample Copy.fmp12 in lesson 3, you can choose **File** menu > **Open Recent**, then select it from the list of recent files to open it in subsequent lessons.

2. Choose **Data Entry** from the Layout pop-up menu in the layout bar, if it is not already selected.

3. Click **Edit Layout** in the layout bar, and select any field.

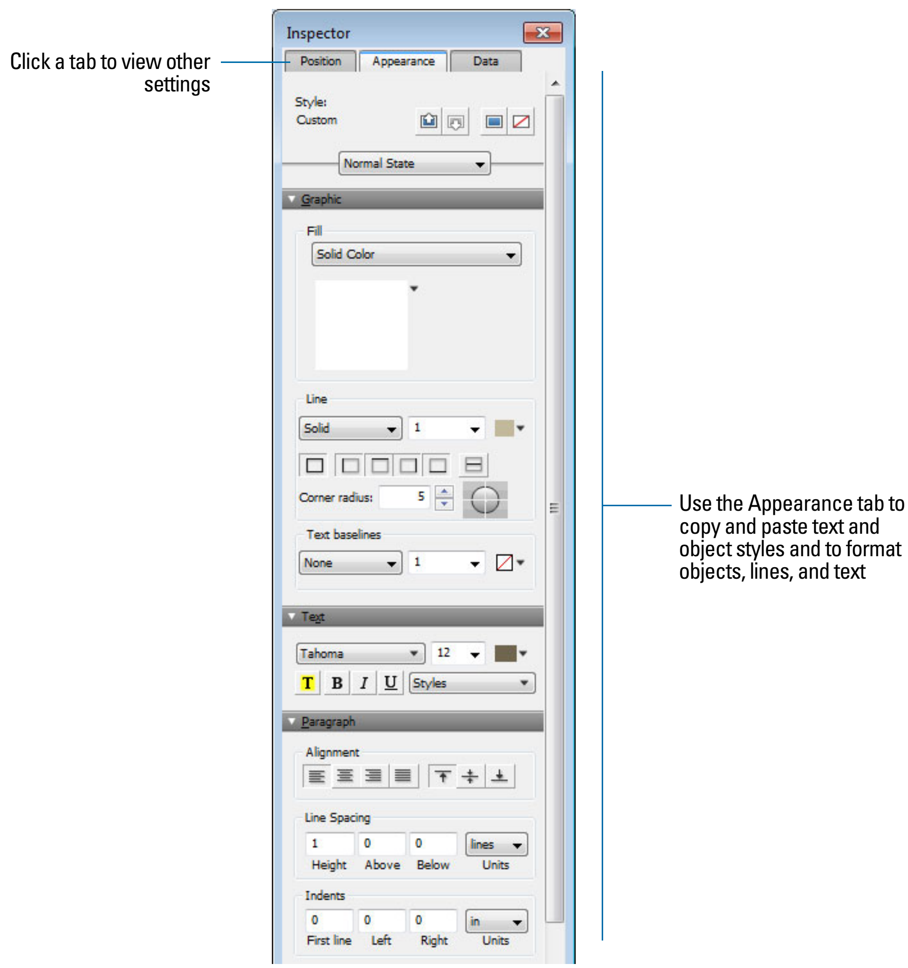
The status toolbar displays tools you use to design layouts. If you don't see the layout tools, resize the FileMaker Pro window to make it wider.



4. Move the pointer over the status toolbar and layout bar to familiarize yourself with the layout tools.

5. Click **Inspector** in the layout bar to open the Inspector.

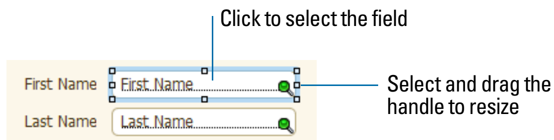
You use the Inspector for many formatting tasks in Layout mode. The Inspector is a tool that allows you to view and edit the settings for objects. Changes you make in Layout mode affect only the way data appears. The data itself remains as it was entered in the file.



Resize, move, and add a field

Select and resize a field

1. Click the **First Name** field on the layout to select it.



2. Drag the handle at the right side of the field toward the left until the field is smaller, yet large enough to display the longest first name you expect in your file.

Blue *dynamic guides* appear on the layout. When you move, resize, or align objects on a layout, dynamic guides help you create and edit objects more precisely.

Each field contains a badge, which indicates that the field is enabled for quick find. The color of the badge shows the estimated performance when searching by this field. You can hide quick find badges by choosing **View** menu > **Show** > **Quick Find**.

3. Click **Save Layout**, then click **Exit Layout** to see your results in Browse mode.

4. In Browse mode, click the book in the status toolbar to flip through the records.

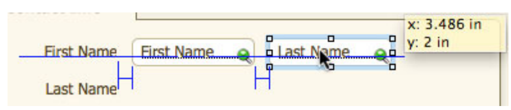
If the field doesn't display all names completely, return to Layout mode and make the field larger.

5. Click **Edit Layout** in the layout bar, and repeat steps 1 through 4 for **Last Name.**

Move a field

1. Click **Edit Layout** in the layout bar, then click inside the **Last Name** field and drag it to the right of the **First Name** field.

You can use the dynamic guides to align the text in the First Name field.



Tips

- If you accidentally move the wrong field or the tab panel, choose **Edit** menu > **Undo Move** to reverse the change.
- You can also use the rulers and grid, the Position tab of the Inspector, and the arrow keys on your keyboard to align objects.

2. Drag the **Last Name** field label above the **Last Name** field.

3. Drag the **First Name** field label above the **First Name** field.

4. Align the **First Name** and **Last Name** field labels with each other and their respective fields.

5. Select and Shift-select the labels and fields, then use the arrow keys to move the objects closer to the **Home Address 1** field.

   Your layout should look similar to the following when you are finished.

   Tip If you make mistakes while designing layouts, you can click **Revert** in the layout bar to discard any unsaved changes, then start again.

6. Click **Save Layout,** then **Exit Layout** in the layout bar to see your results in Browse mode.

Add a field

After a field has been defined in a table, you can display it on any layout based on that table. In the sample database, there are defined fields that are not on this layout. You will add one of these fields now.

Note You can also place related fields from other tables on your layouts, as explained in lesson 11.

1. Click **Edit Layout** in the layout bar.
2. Click the **Field tool**  in the status toolbar and drag the new field under the **Date Paid** field.

3. In the Specify Field dialog box, select **Customer Since**. Be sure that **Create label** is selected, then click **OK**.

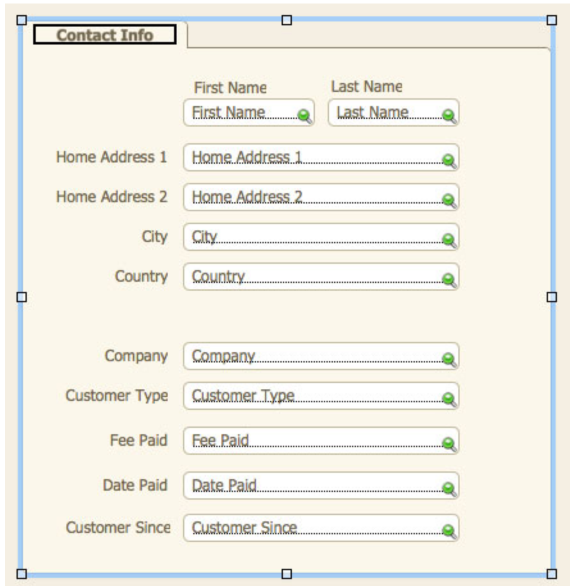
   The **Customer Since** field appears on the layout.
4. Resize the new field by dragging a right handle so the field is the same size as the **Date Paid** field.
5. Select the field label and resize it so the entire label shows, if necessary.

   Note You might need to adjust the alignment of label text.
6. Click **Save Layout,** then **Exit Layout** to check the new field and label in Browse mode.
7. Click **New Record** in the status toolbar.

   You see today's date entered in the **Customer Since** field in the new record. The current date will be entered in the **Customer Since** field in each subsequent new record.
8. Click **Delete Record**, then click **Delete** to remove the empty record from the file.

Add a tab panel

1. Click **Edit Layout** in the layout bar.
2. Select the **Contact Info** tab to select the tab panel.

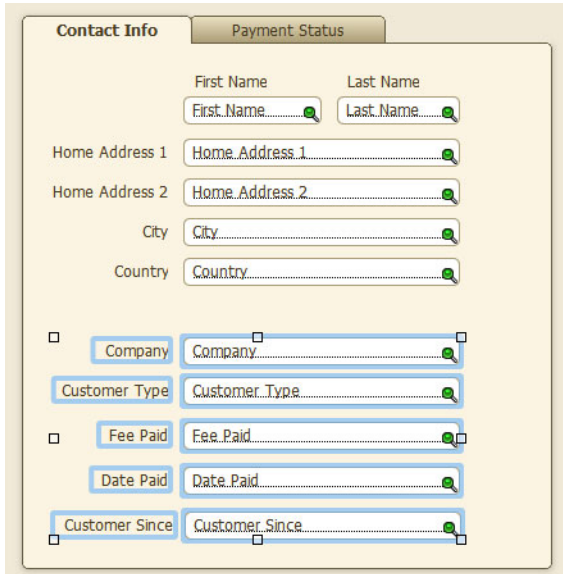


Handles appear around the entire panel

3. Choose **Format** menu > **Tab Control Setup.**
4. In the Tab Control Setup dialog box, for **Tab Name** type `Payment Status`.
5. Click **Create,** then **OK.**

   You see the new tab to the right of the **Contact Info** tab.
6. Click outside the tab control to deselect it.

7. Select, then Shift-select the **Company**, **Customer Type**, **Fee Paid**, **Date Paid**, and **Customer Since** fields and their labels.

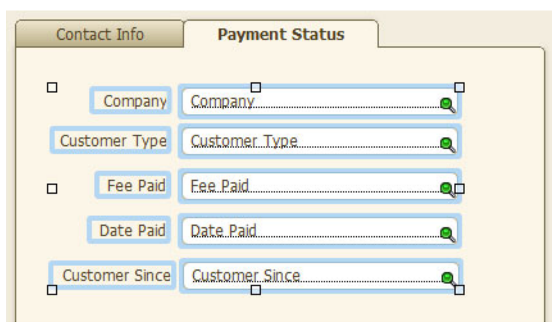


8. Choose **Edit** menu > **Cut**.

9. Select the Payment Status tab panel.

10. Choose **Edit** menu > **Paste**.

11. With the fields and labels selected, drag to position them near the top of the tab panel.



12. Click **Save Layout**, then **Exit Layout** in the status toolbar to see your results in Browse mode.

Display a number as currency

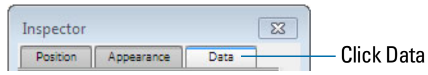
You can display a number as currency, even though only the number is typed into the field. Formatting affects only the way data is displayed. It does not change the data.

1. Click **Edit Layout** in the layout bar.

2. In the Payment Status tab panel, select the **Fee Paid** field. (Select the field, not the field label.)

3. Click **Inspector** in the layout bar if the Inspector is not already open.

4. Click **Data**.



5. Near the bottom of the Inspector under **Data Formatting**, click **Number** .01 and for **Format**, choose **Currency**.

6. Click **Save Layout**, then **Exit Layout**, and click the **Payment Status** tab to see the formatted data in the **Fee Paid** field.

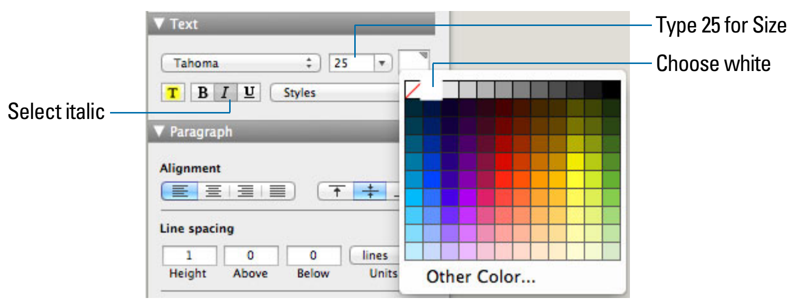
Change text size and color

1. Click **Edit Layout** in the layout bar, then select the **Selection tool** in the status toolbar.

2. Click the `Favorite Bakery Discount Program` heading to select the text block.

3. In the Inspector, click **Appearance**.

4. Under **Text**, type `25` for the font size, click the style button for italic, and choose the color white.



5. With the heading text block still selected, drag the left handle of the text block to the left, if necessary, to show all of the heading text in the new large font.

6. Drag the right handle of the text block to the left, if necessary, so the heading text block does not extend outside the header.

Add a graphic to the layout

Next you will add a logo beside the bakery's name.

1. Click to the left of the heading text.

   This is where you want to place the bakery's logo.

2. Choose **Insert** menu > **Picture**.

3. Open the Tutorial folder.

4. Make sure all file types are showing. Select **logo.png**.

5. Click **Open** (Windows) or **Insert** (Mac OS).

6. Drag the logo using the dynamic guides to align the logo with the text in the header.

7. Click **Save Layout,** then click **Exit Layout** to see the finished layout.

8. When you are finished with this lesson, close the file by choosing **File** menu > **Close**.

For more information

You have learned how to enhance the appearance of your data by using tab panels, graphics, custom text, field formatting, and creative positioning of objects on layouts. You will learn how to add a chart to a layout in lesson 10.

There are many other ways to customize the appearance of fields and layouts.

For example, after you've created a layout, you can:

- use lines or boxes to highlight or separate information
- add scroll bars to individual fields

For more information about designing and creating layouts, see FileMaker Pro Help.

Lesson 6
Creating lists, mailing labels, and form letters

You can easily create layouts to view and print information in many different ways.

In this lesson, you will create:

- a list of your records
- mailing labels
- a form letter

Create a columnar list

A columnar list shows many records simultaneously. Each row is one record. Each column holds one category of data, such as Last Name or Phone Number.

1. Open Sample Copy.fmp12.

2. Click **Edit Layout** in the layout bar.

3. Click **New Layout/Report** in the status toolbar.

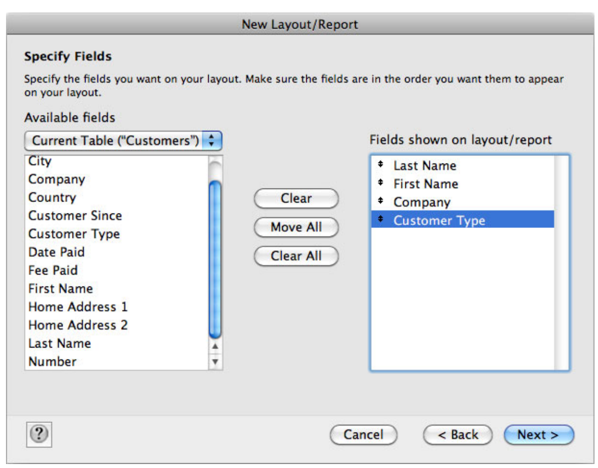
4. For **Layout Name**, type `List of Customers`.

5. Select **List view** for the new layout type and click **Next**.

6. Double-click each of the following fields:

- **Last Name**
- **First Name**
- **Company**
- **Customer Type**

These fields move to the layout fields list.



The order in which you select the fields sets the order in which they appear in the columnar list.

7. Click **Next**.

8. Click **Next** to leave the records in their original order.

9. From the list of layout themes, under **FileMaker Millennium**, select **Cool Brown** (if it is not already selected), and click **Next**.

10. Click **Next** on each of the two remaining panels to accept the default settings.

11. Click **Finish**.

    The data in all records for the fields **Last Name**, **First Name**, **Company**, and **Customer Type** appears in the List of Customers layout. The completed layout is displayed in List View in Browse mode. Notice that the layout you just created appears in the Layout pop-up menu.

    Note   If a column heading's text appears truncated, click **Edit Layout** in the layout bar, then select the column heading label and drag the text box handles to show all of the label text. Save the layout and return to Browse mode.

Create mailing labels

About labels layouts

Labels layouts use *merge fields*. Merge fields expand or contract to fit the data in the field, and take no space if the field is empty. Merge fields are for display and printing only. You can't enter data into merge fields.

Create a labels layout

In this section, you will use the New Layout/Report assistant to:

- create a labels layout
- select fields to include on the labels

Create the labels layout

1. Click **Edit Layout** in the layout bar.

2. Click **New Layout/Report**.

3. For **Layout Name**, type `Labels`.

4. For **Select a layout type**, scroll down and select **Labels**.

5. Click **Next.**

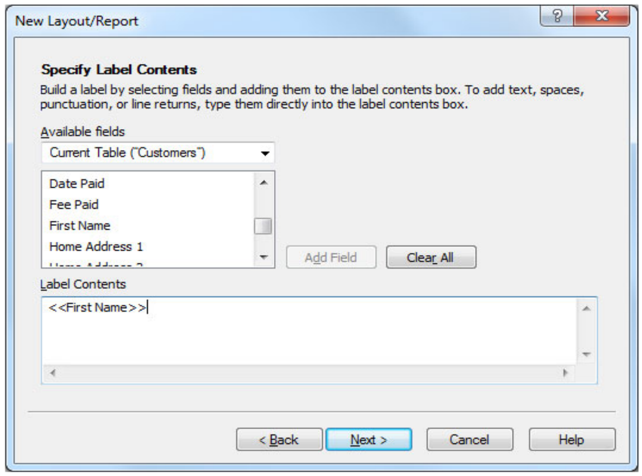
6. Choose **Avery 5160** from the **Use label measurements for** list, if it is not already selected.

7. Click **Next**.

Choose the fields that will appear on the labels

1. Double-click **First Name** in the list.

<<First Name>> appears in the **Label Contents** area. Angle brackets around the field name indicate this is a merge field and data (in this case the first name stored in the record) will appear on labels rather than the placeholder text "First Name." The insertion point in the **Label Contents** text box flashes.



2. After **<<First Name>>**, type a space.

3. Double-click **Last Name** in the list.

4. After **<<Last Name>>**, press Enter (Windows) or Return (Mac OS).

This moves the insertion point to the next line.

5. Double-click **Home Address 1** in the list, then press Enter or Return.

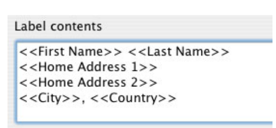
6. Double-click **Home Address 2** in the list, then press Enter or Return.

7. Double-click **City** in the list.

8. Type a comma, then a space.

9. Double-click **Country** in the list.

Your label contents should look like this:



10. Click **Next**.

11. Select **View in Preview mode**, then click **Finish**.

You see a page of labels as it will print in Preview mode.

Notice that not all records have the same number of lines of text. Records with four-line addresses display all lines. In records needing only three lines, the extra line is automatically omitted so there is no blank line in the labels.

12. When you are finished looking at your labels layout, click **Exit Preview** in the layout bar to return to Layout mode.

Create a form letter

About form letter layouts

A form letter in FileMaker Pro is simply a layout containing text. For this letter, you will include merge fields so the appropriate company information appears for the address and salutation, and for the company name in the body of the letter. A graphic is included that depicts the bakery's logo.

Create a one-page blank layout

You should still be in Layout mode.

1. Click **New Layout/Report**.

2. For **Layout Name**, type `Welcome Letter`.

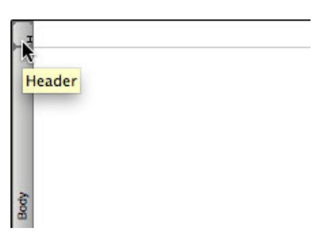
3. Select **Blank layout** for the new layout type.

4. Click **Finish**.

Because this letter will not use a header or footer, you will delete them now.

5. On the layout, click the **Header** part label, then press Backspace (Windows) or Delete (Mac OS).

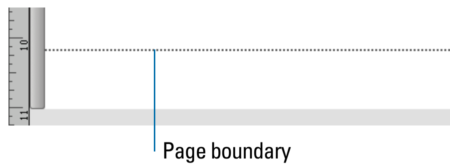
Tip Layout part labels appear vertically by default. If you can't read vertical part labels, you can pause the arrow pointer over labels to display tooltips.



You also can click the part label control in the lower left area of the FileMaker window to switch between vertical and horizontal part labels.

6. Click the **Footer** part label, then press Backspace or Delete.
7. Verify that the unit of measurement for the rulers is inches. Click the top left corner of the rulers until the corner shows **in** for inches (rather than **cm** for centimeters or **pt** for points).
8. Place the pointer over the **Body** part boundary and, using the vertical ruler as a guide, drag the boundary down to about 11 inches.

   When you release the mouse button, you should see the page boundary. If you don't see the page boundary, drag the **Body** boundary down farther.



9. Now drag the **Body** part boundary up to just above the page boundary.

   The page boundary line will disappear. Dragging the body part boundary above the page boundary limits your form letter to a single page.
10. If necessary, use the scroll bar at the bottom of the screen to scroll to the right until you see a heavy dotted line along the right side. This is the right-side page boundary. Your letter will be within these boundaries.
11. Scroll back all the way to the left, if necessary.
12. Scroll up to the top of the layout, if necessary.

Create the text block

You will create a text block with a 2 inch margin on all sides.

1. Select the **Text tool** T in the status toolbar.
2. Using the horizontal and vertical rulers as a guide, drag a rectangle starting about 2 inches from the top left side of the layout, and ending about 2 inches from the bottom right side, as indicated by the page boundary lines.

   When you release the mouse, the horizontal ruler displays the width of the text block. The insertion point flashes in the top left of the text box. You will type the form letter inside the text block.

Add the address

1. Choose **Insert** menu > **Merge Field**.
2. Select **First Name** in the list and click **OK**.
3. Type a space.
4. Choose **Insert** menu > **Merge Field**.
5. Select **Last Name** in the list and click **OK**.
6. Press Enter (Windows) or Return (Mac OS).

7. Add merge fields for the home address, city, and country, with appropriate spaces, new lines, and punctuation.

<<First Name>> <<Last Name>>
<<Home Address 1>>
<<Home Address 2>>
<<City>>, <<Country>>

Type the letter

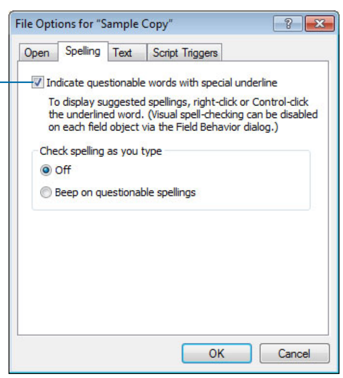
1. Press Enter or Return twice to create two line spaces at the end of the address.
2. Start the salutation line: type `Dear` and a space.
3. Insert merge fields for the first and last name, separated by a space.

   In your own letters, you can use more fields (for example, a title field) for a more professional salutation.
4. Type a comma and two line spaces.
5. Type the letter:

   ```
   Favorite Bakery welcomes you and your company to our organization.

   We look forward to doing business with you and hope you are pleased with our
   products and service!
   ```

   If you misspell a word, you'll see a red line under it. To turn off the real-time spelling checker in this file, choose **File** menu > **File Options**. In the File Options dialog box, click the **Spelling** tab. Clear **Indicate questionable words with special underline**.



Clear this checkbox to turn off underlining of misspelled words

If a field is likely to contain words (such as names) that a spelling checker will mark as misspelled, you can turn off spelling checking on specific fields. For information about turning off spelling checking in specific fields in a file, see FileMaker Pro Help.

Customize the letter with the company name

1. Click after the word **company** in the first paragraph.
2. Type a comma and a space.
3. Insert a merge field for the customer's company name.
4. Type another comma.

Add the closing

1. Click at the end of the text and enter two line spaces.
2. Type `With regards`, then enter four line spaces.
3. Type `John Jones`.
4. Enter a line space, then type `President`.
5. Click **Save Layout,** then **Exit Layout** in the layout bar to see your personalized letter, ready to print, for every record in the database.

   Note The record that appears in your window may differ from the one shown here due to experimenting you may have done in the sample file.

   Mary Smith
   123 Elm St.
   New York, USA

   Dear Mary Smith,

   Favorite Bakery welcomes you and your company,
   DEF Ltd., to our organization.

   We look forward to doing business with you and hope
   you are pleased with our products and service!

   With regards,

   John Jones
   President

6. Browse through a few records to see the merge fields update.

   See "Add a graphic to the layout" on page 37 to learn how to add a logo to the letterhead.
7. When you are finished with this lesson, close the file by choosing **File** menu > **Close**.

For more information

In this lesson, you have created list, labels, and form-letter layouts. You can use FileMaker Pro to create as many layouts as you like to organize information in any way you like. You'll learn more about creating layouts in lesson 9 and in chapter 3 of the *FileMaker Pro User's Guide*. For information about turning off spelling checking in specific fields in a file, see FileMaker Pro Help.

Lesson 7
Simplifying data entry

You can simplify the way you enter data in FileMaker Pro and improve accuracy by using value lists, calculation fields, and data auto-entry.

In this lesson, you will:

- see how value lists can simplify data entry
- write and test a calculation formula
- use a field's auto-entry options to automatically enter data

Enter data using value lists

Value lists let you choose the data value you want from a scrolling list, a pop-up menu, checkboxes, or radio buttons. These lists can contain predefined values, or can be constructed dynamically based on the values in a particular field. Value lists are an efficient way to enter frequently used values into your database.

A value list with predefined values, displayed as radio buttons

Define a value list

In this exercise, you will create a value list called Customer Types. In a later step, you will use this Customer Types value list to assign values to the Customer Type field.

1. Open Sample Copy.fmp12.

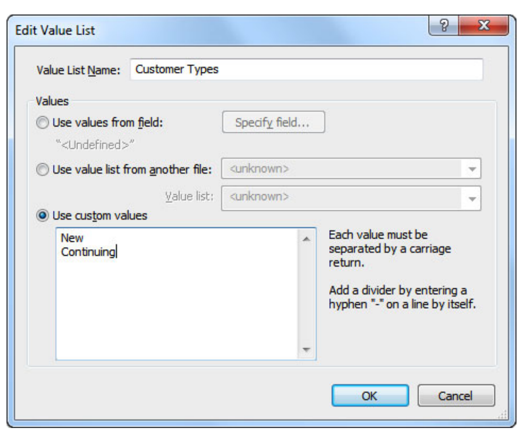
2. Choose **Data Entry** from the Layout pop-up menu in the layout bar, if it is not already selected.

3. Choose **File** menu > **Manage** > **Value Lists**.

4. Click **New**.

5. Name the new value list by typing `Customer Types`.

6. Click in the **Use custom values** text box and type `New` and `Continuing`, each on its own line.



7. Click **OK** to close the Edit Value List dialog box.

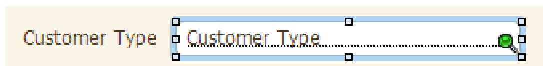
8. Click **OK** to finish.

Assign a value list to a field and display it as radio buttons

1. Click **Edit Layout** in the layout bar.

2. Select the **Payment Status** tab.

3. Select the **Customer Type** field.

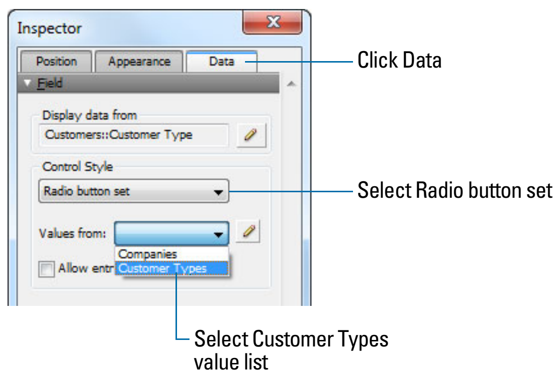


4. Click **Inspector** to open the Inspector, if it's not already open.

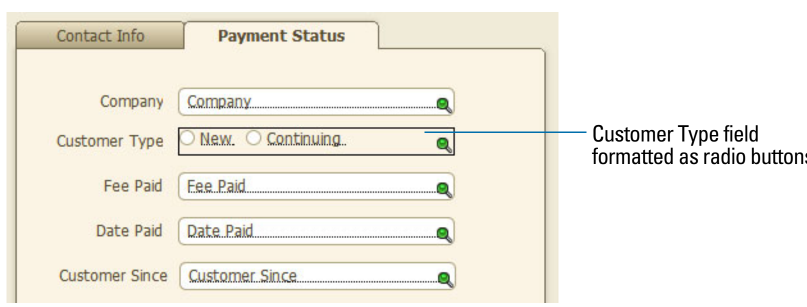
5. Select **Data**. Under **Field**, choose **Radio button set** for **Control Style**.

6. For **Values from**, choose the **Customer Types** value list.

   This is the value list you defined in the previous section.



   Radio buttons and values from the Customer Types value list appear in the Customer Type field.



7. Click **Save Layout**, then **Exit Layout** and click the **Payment Status** tab to see the radio buttons in Browse mode.

Generate values with a calculation field

When you want FileMaker Pro to perform a calculation for you, for example to determine the amount of tax owed or the proper fee to be paid, you use a calculation field. Calculation fields are one of the FileMaker Pro field types. FileMaker Pro can perform simple and complex calculations.

The calculation formula uses values from the current record or related records. The formula can use values from all field types. You can use calculations to return text values (for example, combining the contents of first name and last name fields into a full name field), dates, times, timestamps, and the contents of container fields.

Create a calculation field

Customers of Favorite Bakery can pay an annual fee and receive a fifteen percent discount on all purchases. New customers pay a fee of $200, while continuing customers pay $100. The following calculation returns the annual fee based on the type of customer.

There are several ways of formulating a calculation, each of which can yield the correct result. The following method uses an If statement to compare the data entered in the Customer Type field with one of the customer types. The calculation returns one of two results.

1. Click **Edit Layout** in the layout bar.

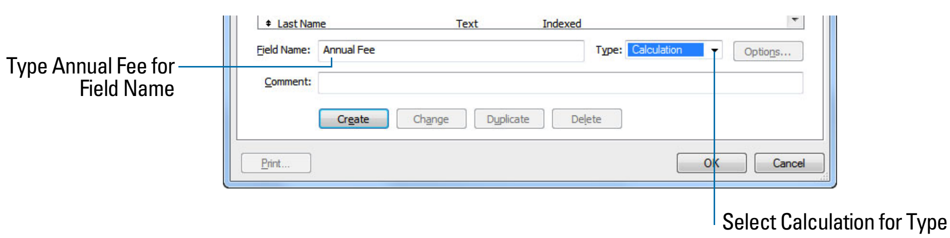
2. Select the **Payment Status** tab, if it's not already selected.

3. Select **File** menu > **Manage** > **Database**.

4. In the Manage Database dialog box, click the **Fields** tab, if it is not already selected.

5. For **Field Name**, type `Annual Fee`.

6. For **Type**, select **Calculation** to make this a calculation field.

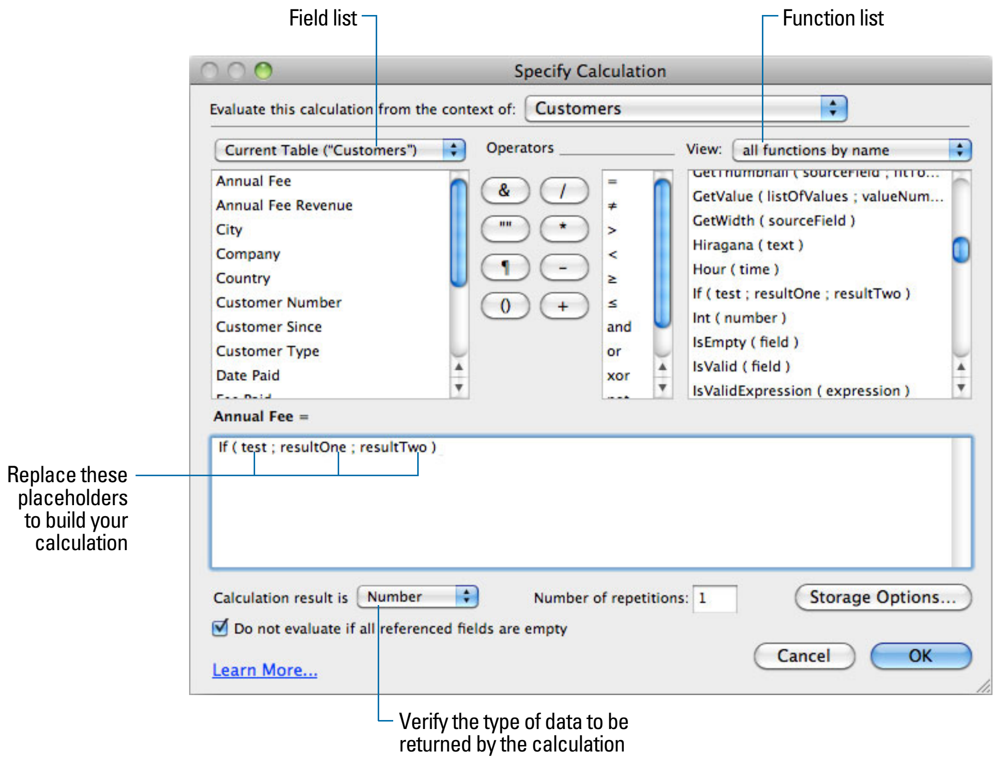


7. Click **Create**.

The Specify Calculation dialog box appears.

8. Scroll through the list of functions on the right in the Specify Calculation dialog box until you locate **If (test ; resultOne ; resultTwo)**. Double-click this function so that it appears in the large text box below.

This function has three parts: a test, a result if the test evaluates as true (result one), and a result if the test evaluates as false (result two). You will replace the placeholders **test**, **resultOne**, and **resultTwo** with the actual components of the calculation.



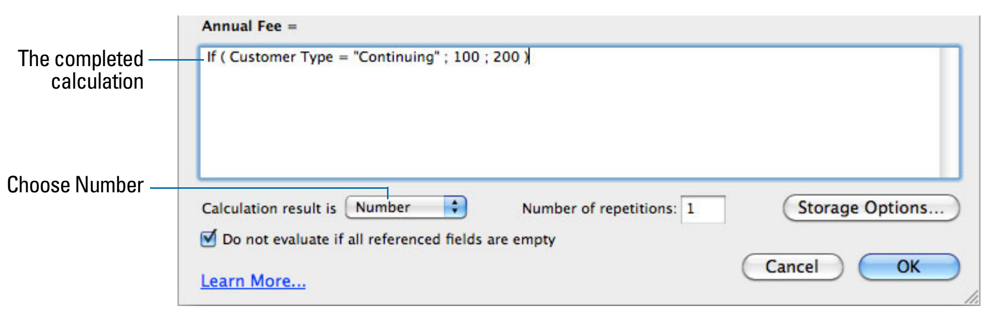
9. Select the placeholder text **test** and type the following exactly as it appears here:

`Customer Type = "Continuing"`

10. Select the placeholder text **resultOne**, and type `100`.

11. Select the placeholder text **resultTwo**, and type `200`.

12. Make sure the calculation result is set to **Number**.



13. Click **OK**.

If you receive an error message, make sure that all spaces and punctuation are identical to the formula shown above.

14. Click **OK** to close the Manage Database dialog box.

The **Annual Fee** field appears at the bottom of the layout, below the Payment Status tab panel. Depending on the size of your screen, you may need to scroll down to see it.

15. Select the **Annual Fee** field and Shift-click its label. Drag them under the **Customer Since** field, aligning them with the fields above.

Your calculation formula is now complete. When data is entered in the Customer Type field, FileMaker Pro compares it to the word you are testing for, “Continuing.” The test evaluates true if data in the field matches this word, and the calculation returns your first result (100). If data doesn’t match, the test evaluates false, and the second result is returned (200).

Test your calculation

To see if your calculation works:

1. Click **Save Layout**, then **Exit Layout** to switch to Browse mode.
2. Click the **Payment Status** tab.
3. Change the value in the Customer Type field from **New** to **Continuing**.

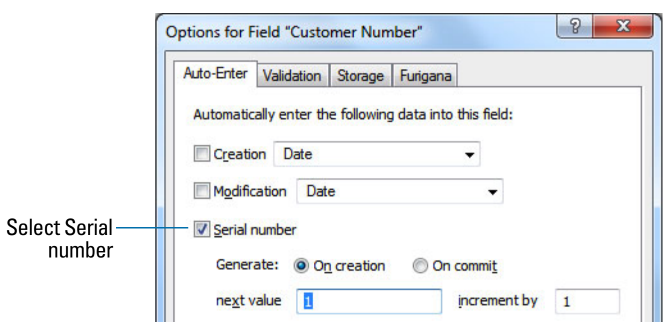
   Notice the result in the Annual Fee field—it changes as the customer type changes.

Automatically enter a serial number

FileMaker Pro lets you automatically enter certain types of data—for example, incremental numbers—when you create a new record.

Create a field for serial numbers

1. Click **Edit Layout** in the layout bar.
2. Choose **File** menu > **Manage** > **Database**.
3. In the Manage Database dialog box, click the **Fields** tab if it is not already selected.
4. Type `Customer Number` for the field name.
5. Select **Number** as the field type.
6. Click **Create**.
7. Click **Options.**
8. Select **Serial number** on the **Auto-Enter** tab. You don’t need to change the **Generate** choice, or the amounts for **next value** or **increment by** for this exercise.



9. Click **OK**, then click **OK** again to close the dialog box.

   The new field appears at the bottom of the layout. Again, you might need to scroll down to see it.
10. Drag the field and field label onto the **Payment Status** tab, aligning them with the other fields and labels.

11. Click **Save Layout**, then **Exit Layout** to switch to Browse mode.
12. Select the **Payment Status** tab.
13. Test your new field entry option by clicking **New Record** in the status toolbar several times. Each time you create a new record, the value in the Customer Number field increments by one.
14. Delete any records you created in the database.
15. When you are finished with this lesson, close the file by choosing **File** menu > **Close**.

For more information

You have learned how to simplify data entry by defining and formatting value lists, calculation fields, and auto-entered serial numbers. For more information on calculation fields and field auto-enter options, as well as defining and formatting value lists, see FileMaker Pro Help.

Lesson 8
Automating tasks with buttons and scripts

FileMaker Pro lets you automate many database tasks with buttons and scripts. These powerful features can save you a lot of time by performing a series of actions with a single click.

In this lesson you will:

- make and use a button to perform a task
- create and run a simple script to perform a multi-step task
- use a button to perform a script

Perform a task using a button

A button is an object on a layout that you can click to perform many FileMaker Pro commands. For example, you can create a button to switch layouts in your database.

Create the button

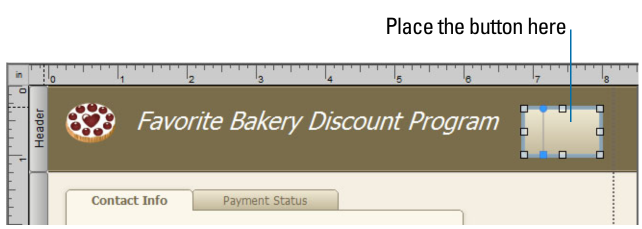
1. Open Sample Copy.fmp12.

2. Choose **Data Entry** from the Layout pop-up menu in the layout bar, if it is not already selected.

3. Click **Edit Layout** in the layout bar.

4. Select the **Button tool** .

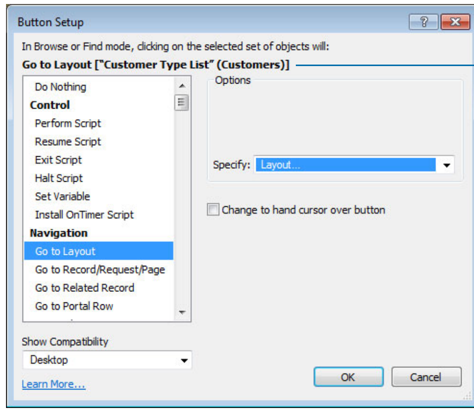
5. Draw the button at the top of the layout.



6. In the Button Setup dialog box, under **Navigation,** select the **Go to Layout** command in the list.

7. In the **Options** area, for **Specify**, choose **Layout**.

8. In the Specify Layout dialog box, choose **Customer Type List** and click **OK**.



The name of the specified layout appears in the Button Setup dialog box

9. Click **OK** to close the dialog box.

The insertion point is in the center of the button.

10. Type `Go to Customer Type List` in your button to identify it.

11. Click outside the button.

You might need to select and resize the button to display the text, move objects in the header, or drag the right edge of the layout to the right to widen the layout, so everything fits within the page boundary.

12. To test your button, click **Save Layout**, then **Exit Layout** to switch to Browse mode, and click the button.

The button displays the Customer Type List layout.

Tip You can choose **View** menu > **Show Buttons** in Layout mode to display a button badge on button objects in Layout mode.

Perform a series of tasks using a script

As you have just seen, you can use a button to perform a single command. To make FileMaker Pro perform a sequence of commands, use a script.

About scripts

A script lets you construct a series of instructions for FileMaker Pro to perform. Like buttons, scripts allow you to automate most of the FileMaker Pro menu commands, as well as activate some commands not found in the FileMaker Pro menus. Simple scripts can perform a single task, while complex scripts might combine elements (such as user feedback and control) with programming techniques (such as branching and looping) to make powerful, dynamic instruction sets.

Create a script to preview the Labels layout

1. Choose **Scripts** menu > **Manage Scripts**.

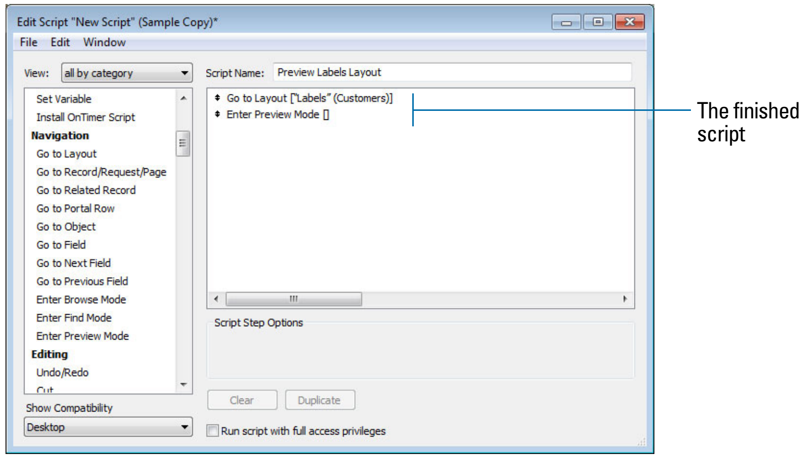
2. Click **New** New to create a new script.

3. In the **Script Name** text box, type `Preview Labels Layout.`

4. From the list on the left, scroll down and under **Navigation**, select the **Go to Layout** script step and click the **Move** button. (You can also select and move script steps by double-clicking them.)

5. In the Script Step Options area, for **Specify**, choose **Layout**, then choose the **Labels** layout, and click **OK**.

6. Select the **Enter Preview Mode** script step from the list on the left, and move it to your script.



7. Close the Edit Script dialog box, click **Save,** then close the Manage Scripts dialog box.

8. To run the script you have just created: Choose **Scripts** menu > **Preview Labels Layout**. FileMaker Pro displays the Labels layout and switches to Preview mode.

Assign a script to a button

While buttons are generally more convenient for users, scripts are a more powerful feature, allowing you to combine many menu commands into a single executable action. Using a button to run a script gives you the best of both features.

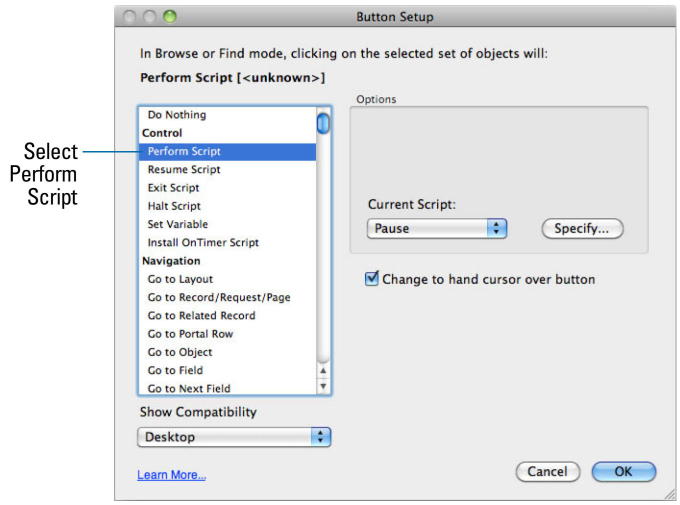
To assign the script you just created to the button you created earlier:

1. Choose **Data Entry** from the Layout pop-up menu in the layout bar.

2. Click **Exit Preview**, then **Edit Layout** in the layout bar.

3. Click the **Go to Customer Type List** button you created earlier in this lesson and choose **Format** menu > **Button Setup**.

4. In the Button Setup dialog box, select the **Perform Script** script step near the top of the list on the left.



5. In the **Options** area, for **Current Script** click **Specify**. Select **Preview Labels Layout** from the list of available scripts, and click **OK**.

6. Leave the rest of the default button settings as they are and click **OK**.

Rename the button

1. Select the **Text tool** in the status toolbar.

2. Click the button once. The text insertion point appears in the button.

3. Select the button text and type `Preview Labels Layout` to rename this button.

   You might need to select and resize the button to display the text, move objects in the header, or drag the right edge of the layout to the right to widen the layout, so everything fits within the page boundary.

Test the button

1. Click **Save Layout**, then **Exit Layout** to switch to Browse mode, then test the button by clicking it.

   Clicking this button performs the script, which displays the Labels layout and switches to Preview mode.

2. When you are finished with this lesson, close the file by choosing **File** menu > **Close**.

For more information

In this lesson, you have created buttons and scripts, and used these two features together. For more information, see FileMaker Pro Help.

Lesson 9
Creating and running reports

The process of retrieving and organizing data from a database is called *reporting*. Reports help you organize and view data in groups.

In this lesson you will:

- create a dynamic report in Table View
- create a report with grouped data and totals using the New Layout/Report assistant
- learn how to save a report as a PDF file and send it as an email attachment

About summary reports

Summary reports present just the totals of your data; they do not break information into smaller groups. *Subsummary reports*, also referred to as *reports with grouped data*, categorize information by a particular field or fields, allowing you to group information hierarchically. This subsummarized information can then be subtotaled, averaged, or counted.

A *summary field* is a type of field you can specify when you define fields in Table View, in the New Layout/Report assistant, or in the Manage Database dialog box. Summary fields allow calculations across all of the records in your found set. In general, when you need to total data across a number of records, you need to use a summary field.

Create a dynamic report in Table View

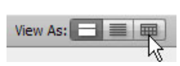
Dynamic reporting in Table View is a quick way to format and display summary data. Here you will create a quick report that displays:

- the annual fees paid by each customer
- subtotals for fees paid by each company
- a grand total for fees collected from all three companies

Examine the data in Table View

1. Open Sample Copy.fmp12.

2. Choose **Data Entry** from the Layout pop-up menu in the layout bar, if it's not already selected.

3. In Browse mode, click **Table View** 

in the layout bar.

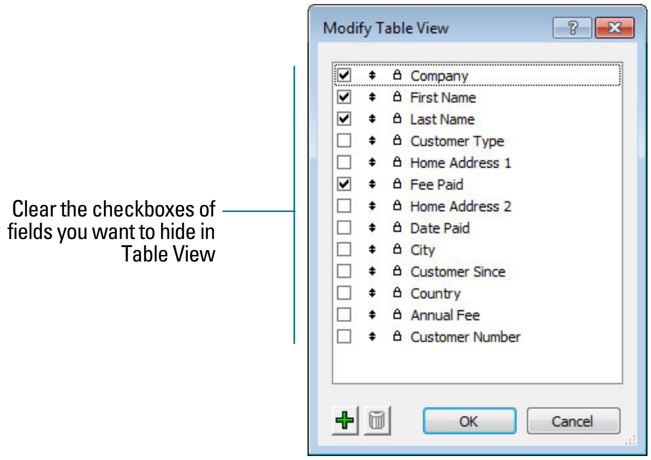
Fields from the Data Entry layout appear as column headings in Table View.

Hide data not needed in the report

By default, Table View displays all fields on the current layout. You can hide the fields you don't want to show in this report. When you hide fields in Table View, no data or field definitions are removed from the layout or database.

1. Move the pointer over any column heading until the down arrow  appears. Click the down arrow, then choose **Table View** > **Modify** in the shortcut menu.

2. In the Modify Table View dialog box, clear the checkboxes for all fields except **Company**, **First Name**, **Last Name**, and **Fee Paid**.



Columns are hidden in Table View as you clear checkboxes.

3. Click **OK**.

Group and sort data and define a summary field

1. Move the pointer over the **Company** column heading, and click the down arrow. Choose **Add Trailing Group by Company** in the shortcut menu.

   Notice that records are reordered and grouped by company. When you add a leading or trailing group in Table View, FileMaker Pro automatically sorts records in alphabetical order (a-z) by the group field. Fields you group by are referred to as *break fields*. In this case, the Company field is the break field.

2. Move the pointer over the **Fee Paid** column heading, and click the down arrow. Choose **Trailing Subtotals**, then **Total (Annual Fee Revenue)** in the shortcut menu.

   Subtotal amounts appear in the Fee Paid column at each company grouping.

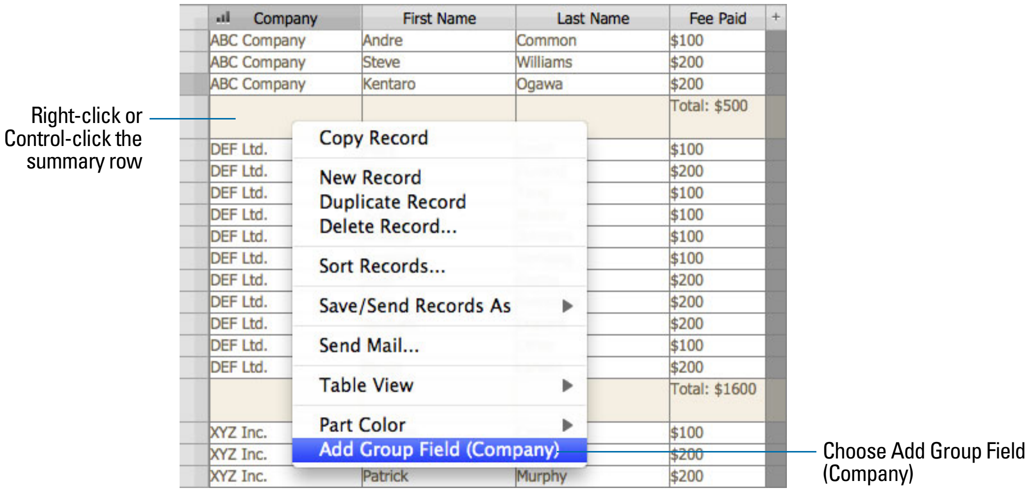
   Note If you can't see the subtotal amounts in the Fee Paid column, drag the **Fee Paid** column heading to make the column wider.

3. Move the pointer over the **Company** column heading again and click the down arrow. Choose **Add Trailing Grand Summary** in the shortcut menu.

   Note You may need to scroll down to see the trailing grand summary.

Label grouped data and remove duplicate data values

1. Right-click or Control-click the trailing summary row (not the trailing grand summary row). Select **Add Group Field (Company)** from the shortcut menu to display the company name for each grouping.

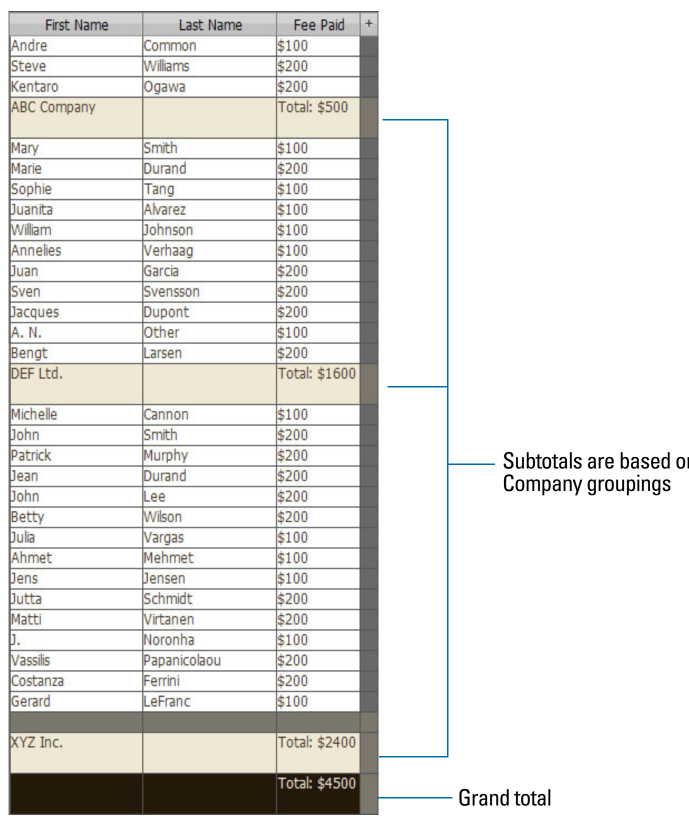


2. Move the pointer over the **Company** column heading, and click the down arrow. Choose **Field > Hide Field** to hide the repeated company data in the Company column.

The label you created on the Company field remains in Table View to identify the group field.

Your finished report displays:

- the fee paid by each customer
- subtotals of fee revenue by company
- a grand total of fee revenue from all companies



For this report to display properly in Table View, data must be sorted by Company.

3. Move the pointer over any column heading, and click the down arrow. Choose **Table View** > **Reset**, then click **Yes** to clear the dynamic report settings and display all fields from the Data Entry layout.

Use an assistant to create a report with grouped data and totals

You can use the New Layout/Report assistant to create a report in a separate layout. When you create reports in the assistant, you have the option of creating a script that will rerun the report to update the data it displays.

About layouts for subsummary reports

A layout containing a report with grouped data requires a number of elements to work properly.

Layouts designed for subsummary reports include:

- a subsummary part in the report layout for each level of detail you want to break out.
- a field or fields to group records by (break fields).
- records sorted by these break fields, in the order the subsummary parts appear on your report layout.
- a grand summary layout part.
- summary field(s) to display totals, averages, or counts.

In this exercise, you will create a report that includes subtotals for each category and a grand total for the entire report. The subsummary report you will create:

- groups the customers by customer type
- subtotals the fees collected for each customer type
- provides a grand total of these fees

The New Layout/Report assistant creates these structures and makes these settings for you.

Create a subsummary report with totals

To create the Annual Fee Report:

1. Click **Form View** 

in the layout bar, then click **Edit Layout** in the layout bar.

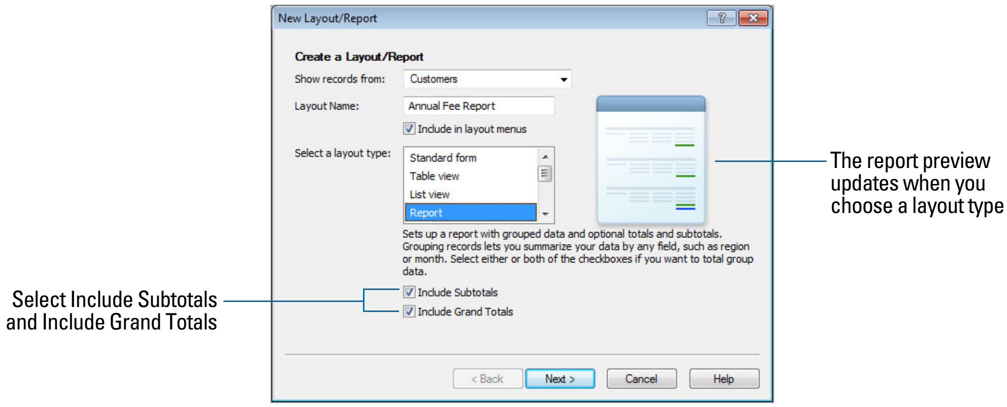
2. Click **New Layout/Report**.

3. For **Layout Name**, type `Annual Fee Report`.

4. Select **Report** for the new layout type.

5. Select **Include Subtotals** and **Include Grand Totals**, if they are not already selected.

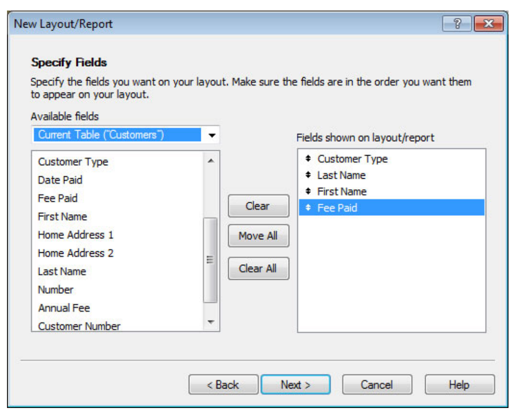
   Notice how the report preview in the assistant changes, giving you an idea of how your report will look with the current settings.



6. Click **Next**.

Select the fields used in this report

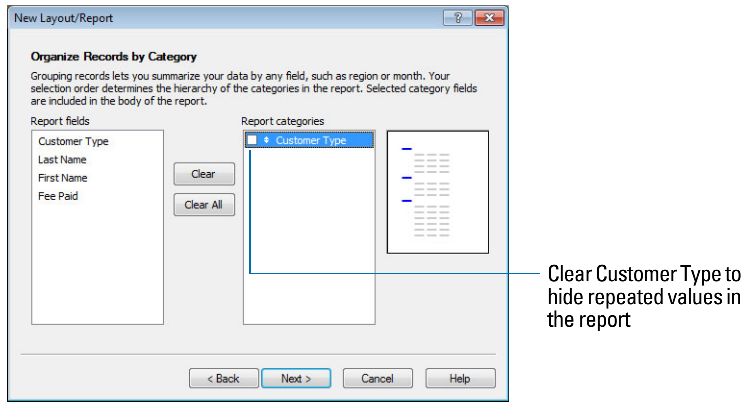
1. Select the first field to be used in this report, Customer Type, and move it to the **Fields shown on layout/report** list.
2. Select and move the Last Name field.
3. Select and move the First Name field.
4. Select and move the Fee Paid field.



5. Click **Next**.
6. You want to group the records by Customer Type, so move this field to the **Report categories** list.

7. Clear the **Customer Type** checkbox.

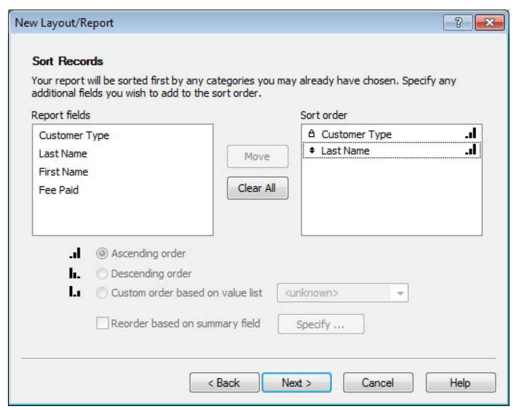
Customer Type will appear only once in each grouping, as shown in the report preview image in the assistant.



8. Click **Next**.

9. Move the Last Name field to the **Sort order** list.

This sorts the records in each group of customer types alphabetically by customers' last names. Notice that the break field Customer Type appears automatically at the top of the **Sort order** list. FileMaker Pro will group records by this category before sorting data.



10. Click **Next**.

Specify subtotals and grand totals

In the Annual Fee Report, you want to see subtotals for fees paid by each type of customer, New and Continuing, and to see a grand total of both groups' fees at the end of the report. To accomplish this, you need to specify subtotal and grand total summary fields in the New Layout/Report assistant.

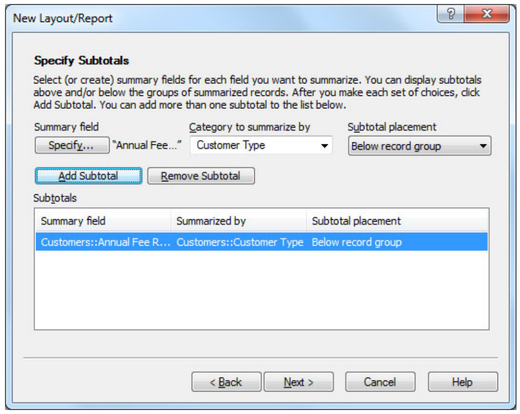
The summary field you will use is Annual Fee Revenue, which has already been defined for you in the sample file. Annual Fee Revenue totals the fees entered in the Fee Paid field.

1. For **Summary field**, click **Specify** and select **Annual Fee Revenue** from the list of available fields, then click **OK**.

2. For **Category to summarize by**, use the default value of **Customer Type**.

3. For **Subtotal placement**, use the default value of **Below record group**.

4. Click **Add Subtotal**. This tells FileMaker Pro to create a subtotal of the annual fees that are paid beneath each customer category.

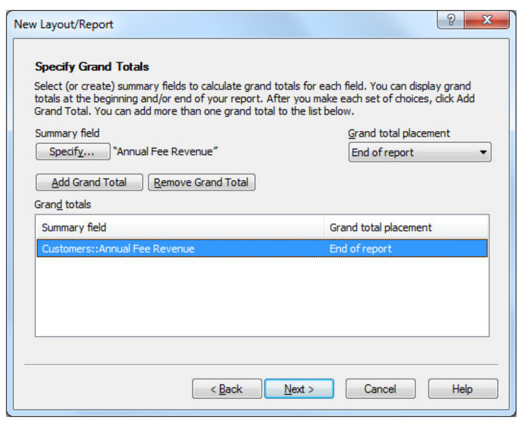


5. Click **Next**.

6. For **Summary field**, click **Specify** and select **Annual Fee Revenue** from the list of available fields, then click **OK**.

This tells FileMaker Pro to use the Annual Fee Revenue field in the grand total.

7. Click **Add Grand Total**. This tells FileMaker Pro to create a grand total of annual fees.



8. Click **Next**.

Select a theme and create the header and footer

1. Under **Classic Refined**, select **Warm**.

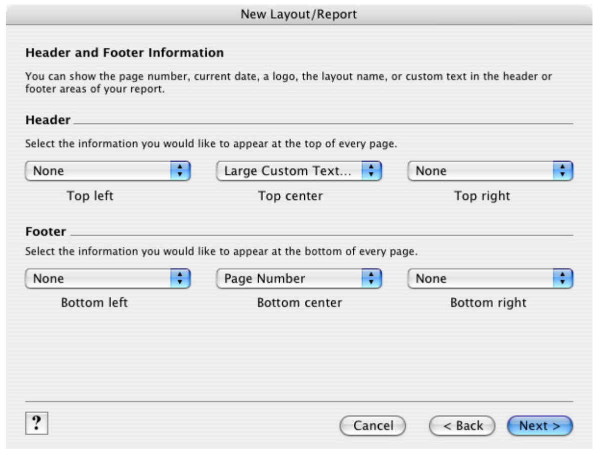
You see a preview of the theme in the assistant. The theme determines the text size, color, and style of the finished report and applies to only the current layout, not all layouts in the database.

2. Click **Next**.

3. In the Header area, for **Top center**, choose **Large Custom Text**.

4. Type `Annual Fee Report` for the header of the report and click **OK**.

5. In the Footer area, for **Bottom center**, choose **Page Number** to include a page number at the bottom of each page of the report.



6. Click **Next**.

Create a script so you can run this report again

1. Click **Create a script**.

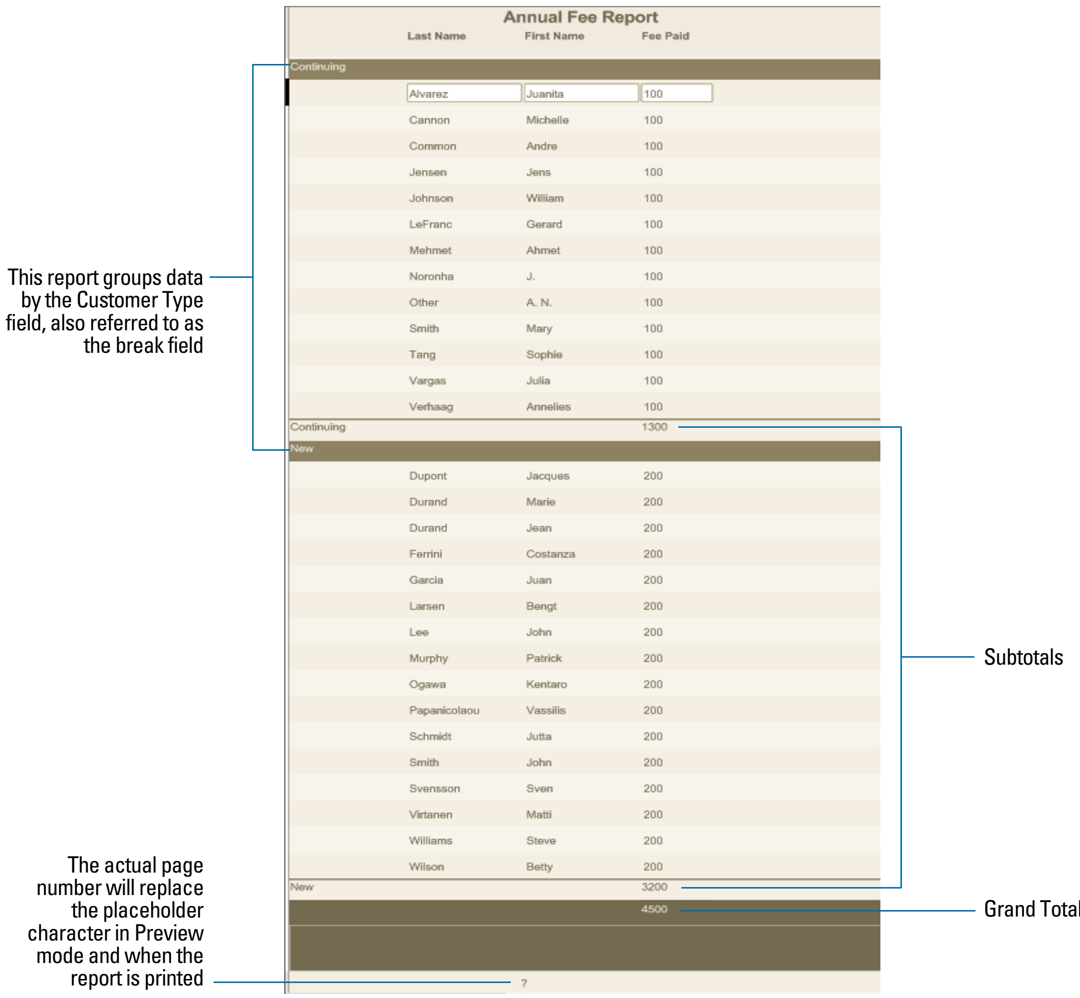
2. Leave **Script name** as it appears, then click **Next**.

3. Click **View in Browse mode**, if it is not already selected.

4. Click **Finish**.

You see the completed report in List View. The fees collected for each customer type are subtotaled, and a grand total of all fees appears at the bottom of the report.

Note Depending on experimentation you may have done in earlier lessons, your finished report may not look like the following illustration.

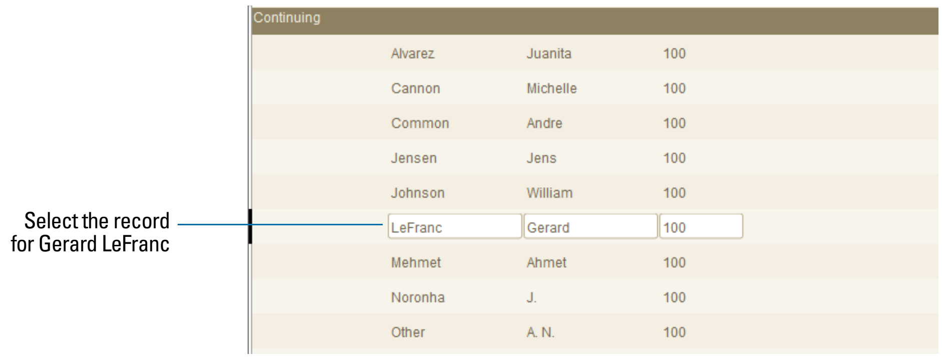


Delete a record to see updated summary values

When you work in List View or Table View in Browse mode, FileMaker Pro automatically updates summary values when data values are added or changed.

To delete a record and see summary values update dynamically:

1. Select the record for Gerard LeFranc.



2. Click **Delete Record**, then **Delete**.

The subtotal for new customers and the grand total show updated values.

Save and send a report as a PDF file

After you run a report, you can save it as a PDF file and send it as an email attachment.

1. Choose **File** menu > **Save/Send Records As** > **PDF**.

2. Select the Tutorial folder as the location for the file.

3. In the **Save Records As PDF** dialog box, for **File Name** (Windows) or **Save As** (Mac OS), type `Annual Fee Report`.

4. For **Save**, choose **Records being browsed**.

5. Select **Create email with file as attachment**.

6. Click **Save**.

FileMaker Pro creates the PDF file and passes it to your email program. The PDF file appears as an attachment in an email message that you can address and send. You can double-click the file attachment in your email window to see the report as a PDF file.

Note If you use a web-based email client, in step 5 do not select the **Create email with file as attachment** option. Create an email message in your email client, attach the report PDF file manually, then send the message.

7. When you are finished with this lesson, delete the email message, then close the sample file by choosing **File** menu > **Close**.

For more information

In this lesson, you have created reports with grouped data and totals in Table View and by using the New Layout/Report assistant. You also saved a report as a PDF file so you can send it as an email attachment. For more information on creating reports, see FileMaker Pro Help.

Lesson 10
Charting data

FileMaker Pro helps you compare and contrast data graphically in column, bar, positive/negative, line, area, scatter, bubble, or pie charts.

You can:

- create a quick chart in Browse mode, then print the chart or place it on a new layout
- use the Chart tool in Layout mode to add a chart to a new or existing layout

In this lesson you will create a quick chart that compares fee revenue from Favorite Bakery's corporate customers.

Create a pie chart

Pie charts are good for showing the percentage of a whole.

1. Open Sample Copy.fmp12.

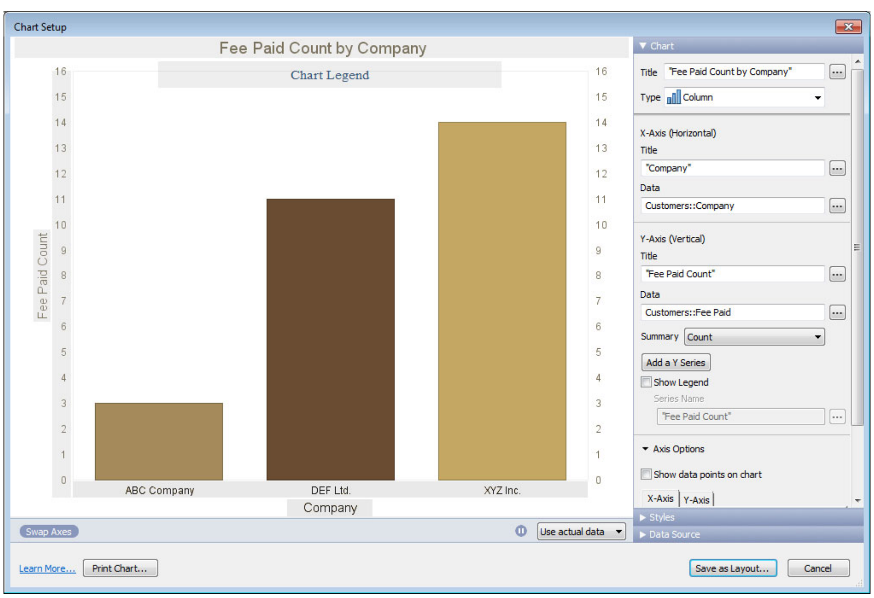
2. Choose **Data Entry** from the Layout pop-up menu in the layout bar, if it's not already selected.

3. Click **Table View** View As: in the layout bar.

4. Move the pointer over the **Company** column, click the down arrow, then choose **Sort Ascending**.

5. Move the pointer over the **Fee Paid** column, click the down arrow, then choose **Chart** > **Chart Fee Paid by Company**.

You see a preview of the chart in the Chart Setup dialog box.



FileMaker Pro specifies quick chart settings

Column charts display in the Chart preview by default. You can change the chart type and specify other settings in the Chart inspector on the right.

6. In the Chart inspector, for **Title**, type `Revenue by Company`.

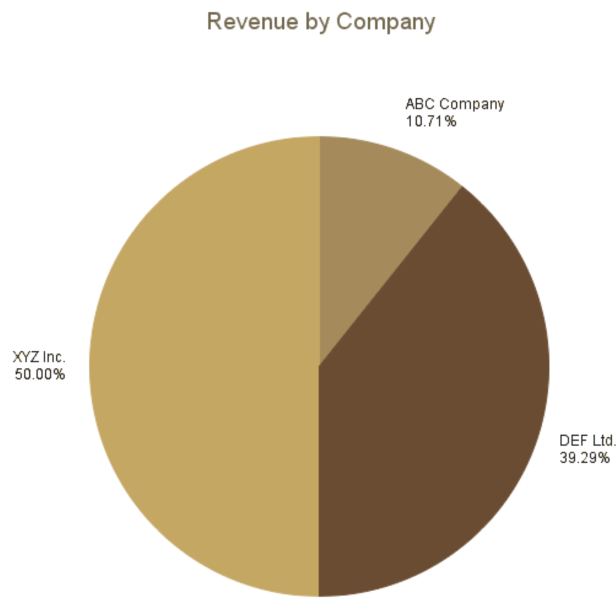
7. For **Type**, choose **Pie**.

The chart preview updates to display the new title and chart type.

8. For **Options**, select **Show values on chart** and **Percentages**.

9. Click **Save As Layout**, then **OK**.

The completed chart appears in Browse mode.



Notes

- You can choose a layout containing a quick chart from the Layout pop-up menu to display it later.
- To modify a chart, switch to Layout mode and double-click the chart.

10. When you are finished with this lesson, close the file by choosing **File** menu > **Close**.

For more information

You have created a pie chart that displays summarized data from the current found set. For more information about charting data, see chapter 3 of the *FileMaker Pro User's Guide* and FileMaker Pro Help.

Lesson 11
Making databases relational

Relational databases let you easily view related data and streamline data entry. You can enter data once, then view and use that data in related tables or files.

In this lesson, you will:

- see how relational databases work
- define a relationship
- display data from one related record
- display a list of related records

The sample file in this lesson uses two tables:

- the *Customers* table containing records for individual Favorite Bakery customers.
- the *Companies* table containing records for companies where these customers are employed. Each company has many employees (customers of Favorite Bakery).

Display a related record in a file

Define a relationship to another table

1. Open Sample Copy.fmp12.

The file contains the tables, but not the relational structure. You will build the structure now.

2. Choose **File** menu > **Manage** > **Database**.

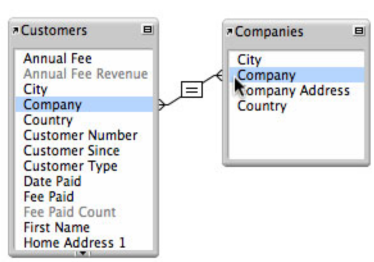
3. Click the **Relationships** tab.

You see the *relationships graph*. The relationships graph shows all the tables in the current file.

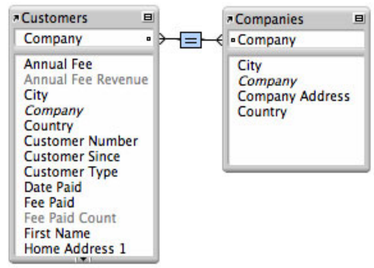
When you work with tables in the relationships graph, you are using them to organize your view into your data. Each table occurrence in the relationships graph represents a separate view into your data. When you create a relationship between two tables, you make the data stored in either table accessible to the other table, according to the *match fields* and the criteria you establish for the relationship.

4. In the Customers table, click the Company field and drag a line to the Company field in the Companies table.

The Company field is the match field.



5. Release the mouse button. You see the relationship you have created.



The relationship is based on matching data in the Company field in both tables. Records are related when data in the Company field in one table matches data in the Company field in the other table.

6. Click **OK** to save this relationship.

Display data from a related record

Once you've defined the relationship, you can modify a layout to display data using that relationship. Here you want to display the company address.

1. Choose **Corporate Account Information** from the Layout pop-up menu in the layout bar.

2. Click **Edit Layout** in the layout bar.

3. Using the **Field tool** in the status toolbar, drag a field onto the layout.

You see the Specify Field dialog box displaying the list of fields in this table.

4. Click **Current Table ("Customers")** and choose the **Companies** table from the list.

You now see a list of the fields in the related table Companies. The colons (::) before each field name show that these are related fields, not fields defined in the Customers table you are currently working in. These related fields will display data from the related table.

5. Select **::Company Address**.

6. Select **Create label** (if it's not already selected), then click **OK**.

7. Repeat steps 3-6 for **::City** and **::Country**.

8. Move the fields if necessary, and resize the fields to display all the data they contain. When you're finished, the fields should look like this:

9. Click **Save Layout**, then **Exit Layout** in the layout bar to return to Browse mode.

10. Click the book in the status toolbar to flip through the records until you see the company name change.

    Though the Corporate Account Information layout is based on the Customers table, you can view address data stored in the Companies table because of the relationship you set up earlier in this lesson.

Display a list of related records

Relationships are bidirectional. The relationship you made between the Customers and Companies tables displays data (company addresses) from the Companies table. Next, you will use the same relationship to display data (customer names) from the Customers table.

Create a portal to display matching records

You can add a *portal* on a layout to display data from related fields.

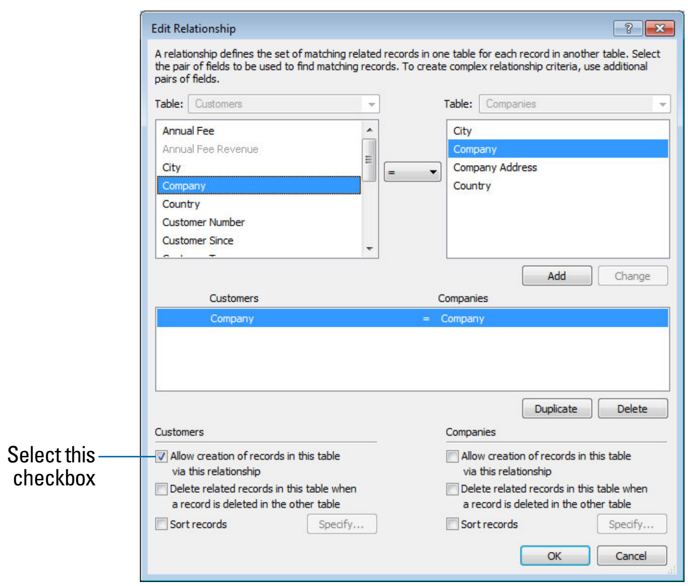
1. Choose the **Companies** layout from the Layout pop-up menu.

   A relationship must always be defined before you can display data from related records. Now you will use the relationship to the Customers table you defined earlier in this lesson, but first the relationship must be changed to allow the creation of records in a related table.

2. Choose **File** menu > **Manage** > **Database**, and click the **Relationships** tab, if it isn't already selected.

3. In the relationships graph, double-click the relational operator to display the Edit Relationship dialog box.

4. At the bottom of the dialog box under **Customers**, select **Allow creation of records in this table via this relationship**. This lets you add a name to the Customer Type List.



5. Click **OK**, then click **OK** again to close the Manage Database dialog box.

6. Use the book or slider in the status toolbar to move to the first company record (ABC Company), if necessary.

7. Click **Edit Layout** in the layout bar.

8. Select the **Portal tool** in the status toolbar and draw a box on the layout to hold the list of names.

9. In the Portal Setup dialog box, for **Show related records from** choose the **Customers** table.

10. Select **Show vertical scroll bar**.

11. For **Number of rows**, enter 4.

12. Click **OK**.

Add the fields and format the portal

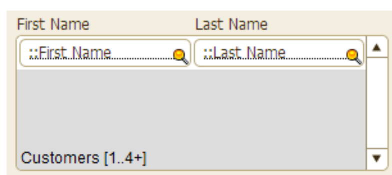
1. In the Add Fields to Portal dialog box, select the **::First Name** field and move it to the **Included fields** list.

2. Select and move the **::Last Name** field.

3. Click **OK.**

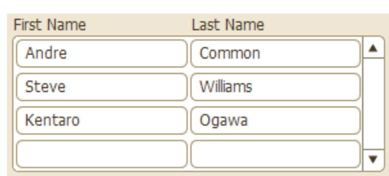
4. Use the **Text tool** in the status toolbar to create field labels above the **First Name** and **Last Name** fields in the portal.

   When you are finished, the portal should look like this:



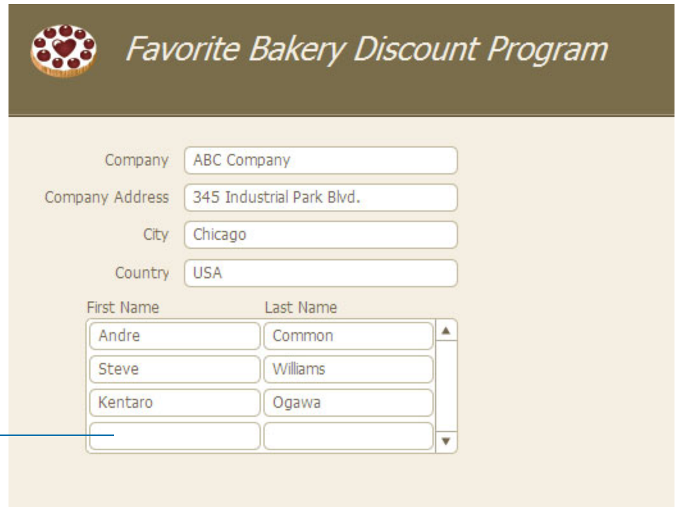
5. Click **Save Layout**, then click **Exit Layout** to view the list of customers in each company.

   Note Depending on experimentation you may have done in earlier lessons, your portal may look different than the one shown in the following illustration.



The portal displays a list of customers from the related table

6. Test your new structure: type the name of a new customer at ABC Company.



7. Choose **Data Entry** from the Layout pop-up menu in the layout bar to see the new record.

When you added the new customer, the relationship automatically created a record for this customer in the Customers table. Click the **Payment Status** tab of the new record. ABC Company is automatically entered into the match field because the name was added to the portal of the ABC Company record.

8. When you are finished with this lesson, close the file by choosing **File** menu > **Close.**

For more information

You have seen how to use and create simple relationships. This tutorial covers only the basics; there are many important points to consider when building a relational database system. Be sure to read chapter 4 in the *FileMaker Pro User's Guide* and the relational information in FileMaker Pro Help before using relationships in your own files.

Lesson 12
Sharing and exchanging data

You can share data over a network using FileMaker Pro, FileMaker Server, or via the internet using Instant Web Publishing. You can also share data by importing it into FileMaker Pro files from other applications or exporting it from FileMaker Pro files to other applications.

In this lesson you will learn:

- how to enable network sharing of FileMaker Pro files
- how to import data into a FileMaker Pro file

About sharing data

You can use *FileMaker Network Sharing* to share FileMaker Pro databases on your network, which allows up to nine FileMaker Pro or FileMaker Go users to access the same database file simultaneously. If you need to share files with more than 9 concurrent users on a network, you can use FileMaker Server, which allows more users to share files and provides greater networking performance and better security.

You can use *Instant Web Publishing* to publish FileMaker Pro layouts as web pages, which allows anyone with a web browser on your intranet (or the internet) to access your FileMaker Pro databases.

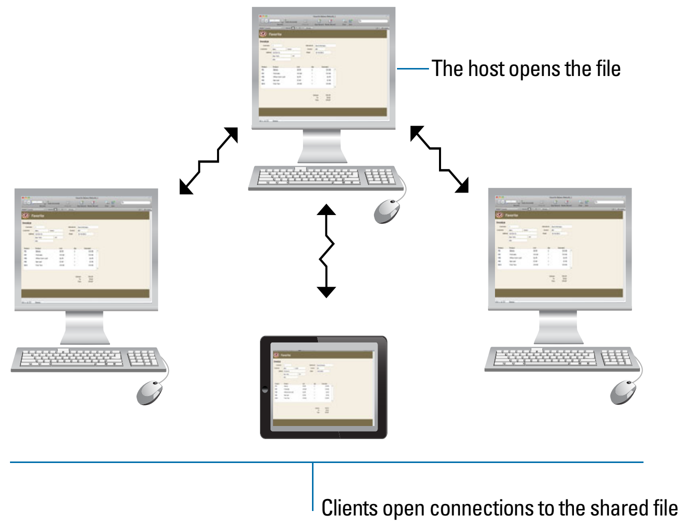
You can exchange information between FileMaker Pro and other applications by *importing and exporting data*. For example, you can import data that is in another database or spreadsheet program, or export address data in order to create personalized form letters with a word processing program. When you import or export data, the data is copied to the destination file, not shared between the applications.

Enable FileMaker network sharing

If your computer is connected to a network, you and other FileMaker Pro users can use the same database file simultaneously.

Important Your FileMaker Pro licensing agreement requires that you purchase a license for each separate computer on which the FileMaker Pro application is installed. Each software license may not be shared or used concurrently on different computers.

The first person to open a shared file is the *host*. Any user who connects to and opens the hosted file is a *client*.



Once a shared file is open, the host and clients have access to the same information, and all changes to the file appear in each user's window.

Changes to the data, scripts, or layouts made by any user are saved in the shared file. The shared file is saved on the disk where the file resides.

Sort orders, find requests, import and export field orders, and print settings are specific to each user.

To enable FileMaker network sharing:

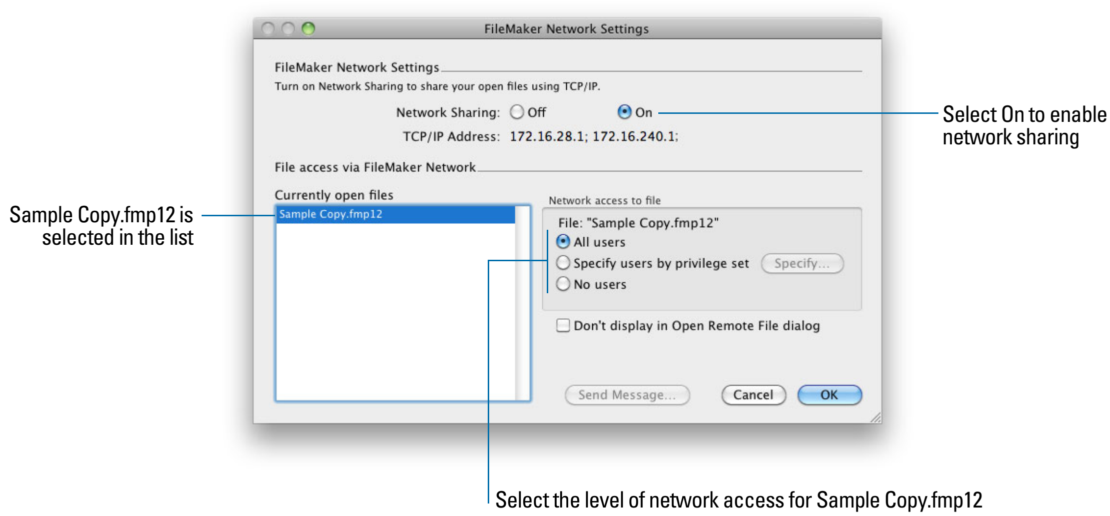
1. Open Sample Copy.fmp12.

> Note To enable or change a file's sharing status in your own files, you must open them with an account that has **Manage extended privilege set** access privileges. You will learn about accounts, passwords, and privilege sets in lesson 13.

2. Choose **File** menu > **Sharing** > **FileMaker Network**.

3. In the FileMaker Network Settings dialog box, for **Network Sharing**, click **On**.

You see the TCP/IP address of your system below the Network Sharing controls.



4. For **Network access to file**, select **All users**.

5. Click **OK**.

Note Windows: You might receive a security warning from the operating system when you enable network sharing in FileMaker Pro.

Sample Copy is now hosted on your computer. You must keep this file open to make it available to users on your network.

Opening a remote file

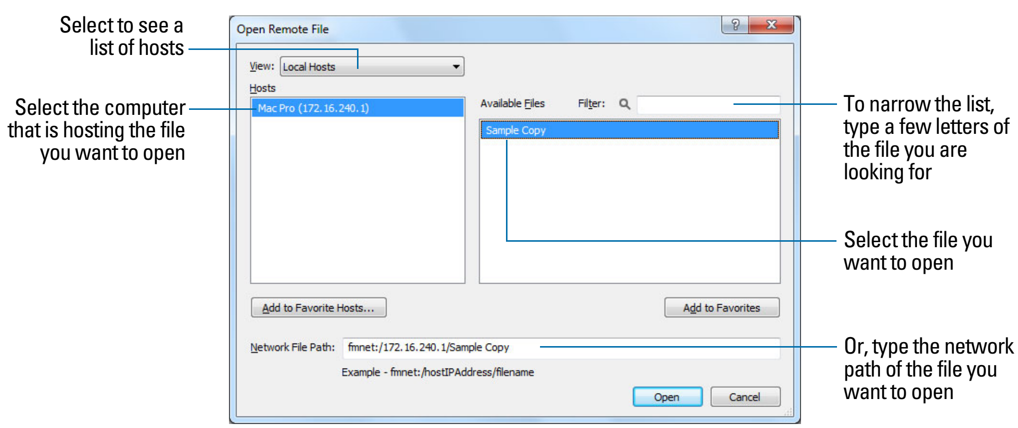
A file is considered *remote* when it is stored on a networked computer other than the computer you are using. After a host opens a shared file in FileMaker Pro, up to nine users can open the remote file as clients.

To open a remote file:

1. Choose **File** menu > **Open Remote**.

2. For View, select **Local Hosts** to see a list of hosts.

Note If your computer is not on a network or if there are no FileMaker Pro files currently being hosted, no files are listed in the Open Remote File dialog box.



3. Select a host, then the file you want to open.

4. Click **Open.**

Depending on how file sharing is set up on the host computer, you might have to enter an account name, password, and domain name (Windows only) to open the remote file.

5. Close any remote files you have opened.

Disable FileMaker network sharing

To disable FileMaker network sharing of Sample Copy:

1. In Sample Copy.fmp12, choose **File** menu > **Sharing** > **FileMaker Network**.

2. In the FileMaker Network Settings dialog box, choose Sample Copy.fmp12 in the list of **Currently open files**.

3. For **Network access to file**, click **No users**.

4. To disable network sharing of all files, for **Network Sharing,** click **Off**.

5. Click **OK**.

Sample Copy is no longer hosted on your computer.

About exchanging data

You can exchange information between FileMaker Pro and other applications by importing and exporting data. You can:

- import data into an existing FileMaker Pro file, either into a new table or into an existing table
- share data with and import data from ODBC data sources
- convert data from other applications to new FileMaker Pro files
- export data for use in other applications

Saving and sending data

You can save FileMaker Pro data as a Microsoft Excel file or a PDF file, allowing you to give data to users who don't have FileMaker Pro. FileMaker Pro lets you email the Excel file or PDF file when you save it. You can also create scripts to save/send records as Excel or PDF files.

FileMaker Pro can send email messages to one or more recipients. You can manually enter recipients, the message subject, and so on, or you can use values from fields or calculations.You can also create scripts to send email or send a *snapshot link* to your database, which captures a found set and displays it for another user.

Supported import/export file formats

Most applications store data in their own file format, but most can also exchange information using intermediary formats. For example, FileMaker Pro can import and/or export files in Microsoft Excel, tab-separated text (tab), comma-separated values (csv), and XML, as well as other formats.

If you want to exchange data with another program, check the documentation that came with that program to determine a common intermediary file format that both FileMaker Pro and the other program support.

Note Most file formats do not import or export formatting settings such as font, size, style, and color.

About importing data

There are several ways to import data into an existing file. You can:

- add new records to an existing table
- create a new table from imported data
- update existing records in an existing table
- update matching records in an existing table

Important Certain import operations that update existing records and update matching records overwrite existing data during the import process, which cannot be undone. To safeguard your data, always choose **File** menu > **Save a Copy As** to make a backup of the file before you perform an import that updates records.

The file you import records from is the *source*. The file you import records to is the *target*.

Import data into the sample file

1. In Sample Copy.fmp12, select **Data Entry** from the Layout pop-up menu, if it is not already selected.
2. Choose **File** menu > **Import Records** > **File**.
3. For **Files of type** (Windows) or **Show** (Mac OS), choose **All files** (Windows) or **All Available** (Mac OS), then choose **MyFile.fmp12** in the Tutorial folder.

   MyFile.fmp12 is the file you created in lesson 4 and the source file for this data import exercise.
4. Click **Open**.

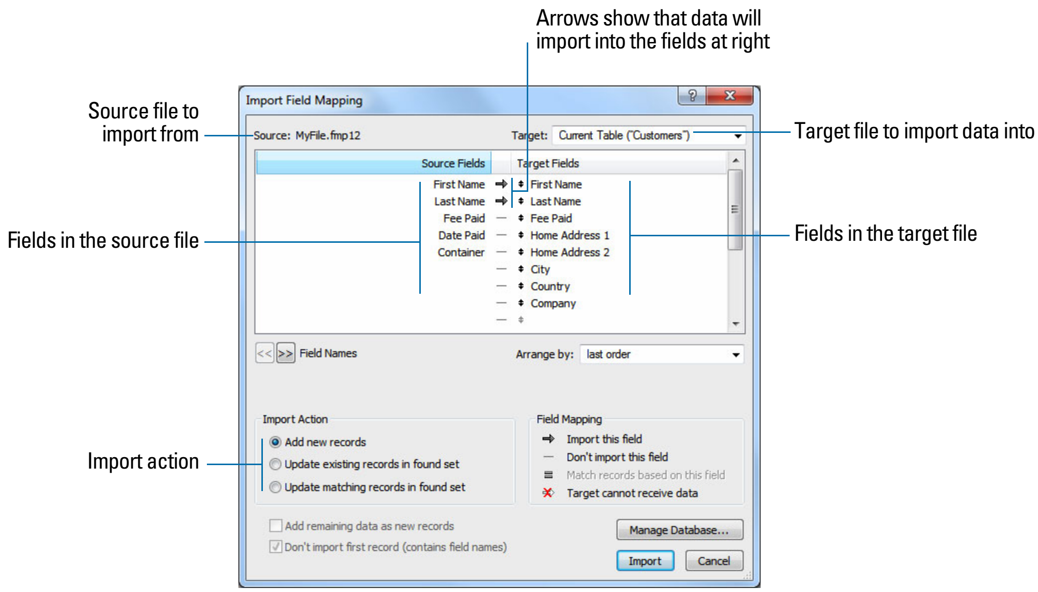
   The Import Field Mapping dialog box appears.
5. For **Target**, select **Current Table ("Customers")**.
6. For **Import Action**, select **Add new records**.
7. Make sure that the **First Name** field under **Source Fields** is on the same row as the **First Name** field under **Target Fields.**

   You can move target fields up and down in the list using the ≑ slider. Place the pointer over the double-arrow ⇕ to activate the slider.
8. Repeat step 7 for **Last Name**.

9. Make sure that an ⇛ appears between both the **First Name** fields and the **Last Name** fields.

   If you don't see an ⇛ between matching fields, click — (Windows) or ▫▫ (Mac OS) to change the setting.

   The remaining fields should have — (Windows) or ▫▫ (Mac OS) between them. The data in these fields will not be imported to the target file.



10. Click **Import**.

11. In the Import Options dialog box, click **Import**.

12. Review the information in the Import Summary dialog box, then click **OK**.

    Records in MyFile.fmp12 that contain first name and last name data have been added to Sample Copy.fmp12. The current found set contains the newly imported records. Browse the new records to verify the imported data. Click **Show All** in the status toolbar to see all records in the file.

13. When you are finished with this lesson, close the sample file by choosing **File** menu > **Close.**

For more information

You have learned how to enable file sharing using FileMaker Pro and how to import data into a FileMaker Pro file. To learn more about sharing and importing data in FileMaker Pro, see chapter 5 in the *FileMaker Pro User's Guide* and see FileMaker Pro Help. For information about publishing databases on the web, see the *FileMaker Instant Web Publishing Guide*.

Lesson 13
Protecting data in FileMaker Pro

Although your operating system includes file security features, you should use FileMaker Pro accounts and privileges to protect your data. In FileMaker Pro, you restrict which users can access a file when you protect files by defining accounts and passwords. The account name and password that users enter determine which privilege set is used. These privilege sets limit what users can do in the file.

In this lesson you will learn:

- how accounts, passwords, and privilege sets work together to protect your data
- how to create accounts, passwords, and privilege sets

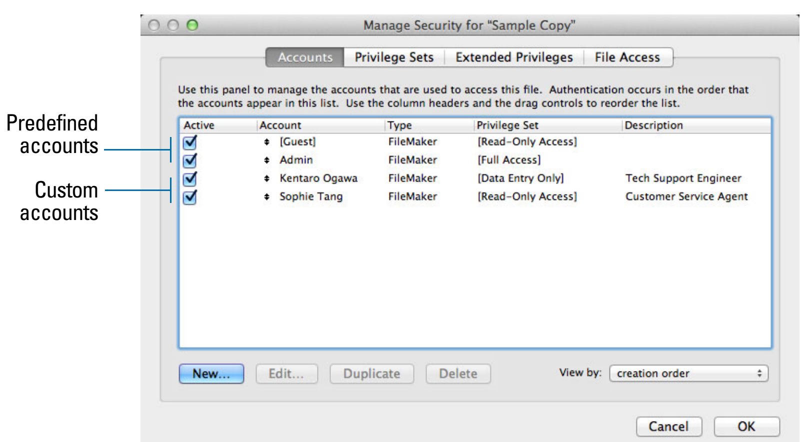
Create an account and password

About accounts

Accounts authenticate users who attempt to open a protected file. An account includes an account name and usually a password. Accounts can be set up for individual users or you can create accounts that are shared among groups of individuals, such as a “Marketing” account. Shared accounts are useful when you want fewer accounts to maintain and aren’t concerned with tracking individual access to a database file. However, it’s safer to create many accounts than to have multiple users share one account. Passwords are case-sensitive, but account names are not.

When you create a database, two predefined accounts are created (Admin and Guest) and three predefined privilege sets are available (Full Access, Data Entry Only, and Read-Only Access).

The Admin account is not assigned a password and is assigned the Full Access privilege set, which permits access to everything in the file. The Guest account allows users to open a file without specifying an account name, is not assigned a password, and is assigned Read-Only privileges.



Passwords and access privileges for predefined accounts can be changed.

To create an account and password:

1. Open Sample Copy.fmp12.

2. Choose **File** menu > **Manage** > **Security.**

3. In the **Accounts** tab, click **New**.

4. For **Account is authenticated via**, choose **FileMaker**.

5. For **Account Name**, type `Le Nguyen`.

6. For **Password**, type `lnguyen`.

Note For security reasons, password text never appears in FileMaker Pro. Always make a note of passwords you enter when setting up accounts, then provide passwords to the appropriate users. Store passwords in a safe place in case they're forgotten and so they can't be stolen.

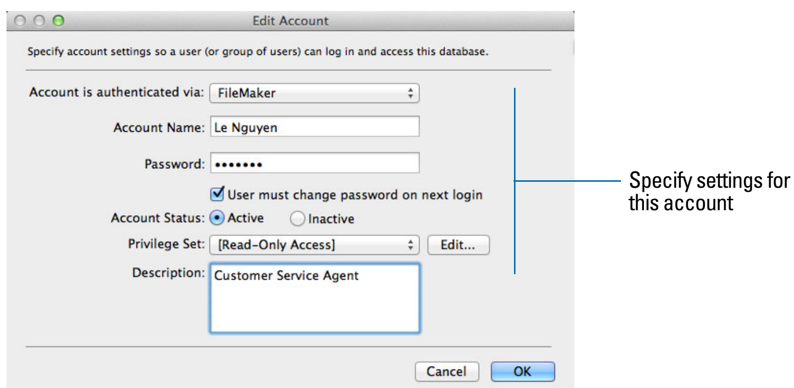
7. Select **User must change password on next login**.

In most cases, an account that is shared by multiple users should not force a password change upon first login. Instead, you should specify a password and provide it to the users who need it. Also, the privilege set for a shared account should not permit password changes because one user could change the password and lock out all other users who share the account.

8. For **Account Status**, select **Active**.

9. For **Privilege Set**, choose **[Read-Only Access]**.

10. For **Description**, type `Customer Service Agent`.



11. Click **OK**.

You see the new account listed with the default Guest and Admin accounts.

12. Click **OK**.

An alert appears informing you that the Admin account in the sample file is not password protected. You must acknowledge this setting before FileMaker Pro allows you to continue.

13. Click **Allow** to close the alert.

You see the Confirm Full Access Login dialog box.

14. For **Full Access Account,** type `Admin`, leave **Password** blank, then click **OK**.

Note For security purposes, always password-protect the Admin account in files you create.

Create a privilege set

About privilege sets

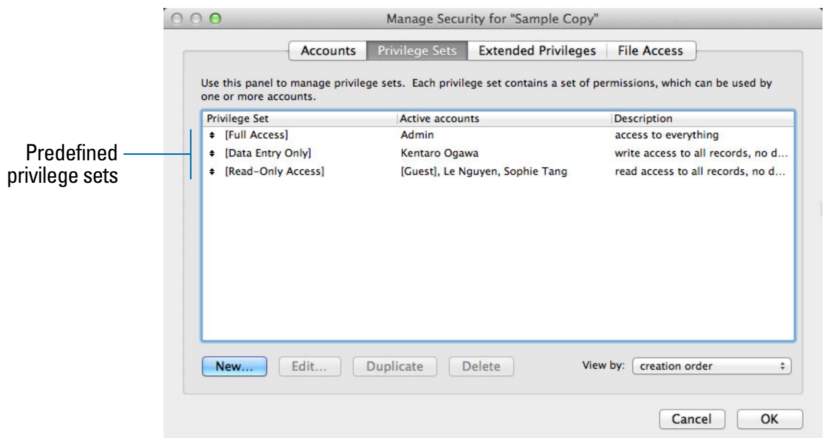
Privilege sets specify a level of access to a database file. In addition, FileMaker Pro allows for extended privilege sets, which determine sharing options for files.

Predefined privilege sets

Each new database file has three predefined privilege sets:

- Full Access permits accessing and changing anything in the file
- Data Entry Only permits only the viewing and entering of data
- Read-Only Access permits viewing, but not changing data

In every database, there must be at least one account with the Full Access privilege set. For security reasons, this account should have a password. You can't change or delete predefined privilege sets except to enable or disable their extended privilege sets, but you can duplicate predefined privilege sets and modify the copy to use it in a different way.



Custom privilege sets

While predefined privilege sets in FileMaker Pro provide for common types of data access, creating unique privilege sets lets you limit access to specific aspects of a database, such as which layouts can be viewed, which menus are available, and whether printing is allowed.

Extended privilege sets

Extended privilege sets determine the data sharing options that are permitted by a privilege set, such as whether a privilege set permits users to open a shared file or view a database in a web browser.

Create a custom privilege set

Suppose your business relies on temporary staff at certain times of the year. This staff needs to have access to your data, but you want to prevent temporary employees from printing or exporting information in your database. You can create a specific privilege set for temporary staff that does not allow access to printing or exporting data.

1. Choose **File** menu > **Manage** > **Security.**

2. Click the **Privilege Sets** tab.

3. Select the **[Data Entry Only]** privilege set, then click **Duplicate**.

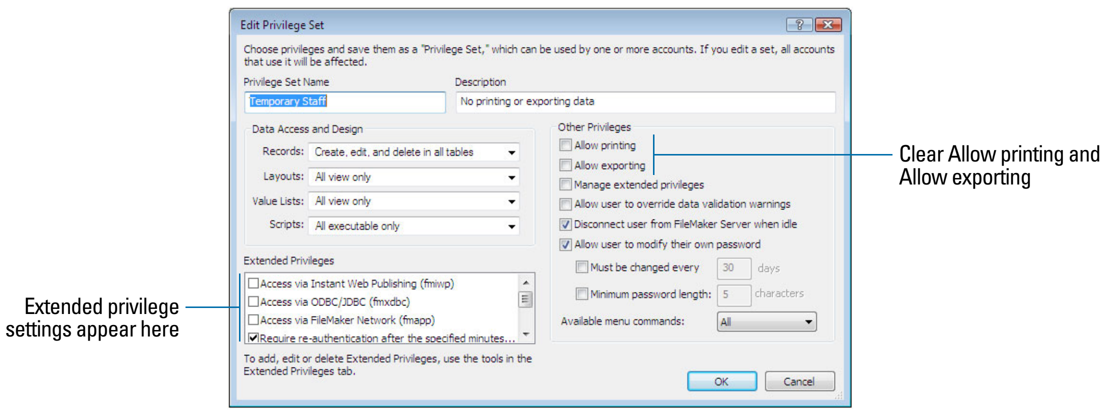
Data Entry Only Copy is selected.

4. Click **Edit**.

5. For **Privilege Set Name**, type `Temporary Staff`.

6. For **Description**, type `No printing or exporting data`.

7. Clear **Allow printing** and **Allow exporting**.



8. Click **OK**.

Temporary Staff appears in the privilege set list. This privilege set can be used by one or more accounts.

9. Click **OK**.

10. Click **Allow** to close the alert.

You see the Confirm Full Access Login dialog box.

11. Type `Admin` for **Full Access Account**, leave **Password** blank, then click **OK**.

12. When you are finished with this lesson, exit or quit FileMaker Pro to close all open files.

For more information

You have learned how to create accounts and passwords, and to assign privilege sets to them. You have also learned how to create custom privilege sets and how they can be used for specific business reasons. To learn more about how accounts, passwords, and privilege sets can protect your databases, see chapter 6 of the *FileMaker Pro User's Guide* and FileMaker Pro Help.

Lesson 14
Backing up your databases

Power failures, disk problems, and other unexpected computer problems can happen to anyone at any time. To help prevent data loss, regularly back up all important documents on your computer, including your databases.

In this lesson you will learn:

- how and when to back up your database
- where to learn about other ways to protect your files

How to back up your database

There are many ways to back up a file. This is one way.

1. Determine the size of the database:

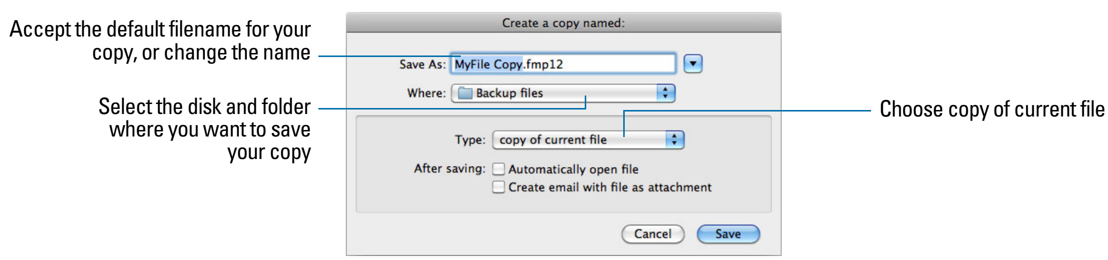
Windows: In Explorer, right-click the icon for the file, choose **Properties**, then **General**.

Mac OS: In the Finder, click the icon for the file, then choose **File** menu > **Get Info**.

2. Identify a disk or volume that has enough available space for a copy of the database.

3. Open the database you want to back up.

4. In FileMaker Pro, choose **File** menu > **Save a Copy As**.



5. Click **Save**.

Important Next time, back up to a *different* disk or volume. Never back up over the only or most recent copy of your file. You should have several different backups at all times.

When to back up

You should back up:

- as often as necessary to be sure you can restore all of your data in an emergency
- before you make a major or irreversible change like deleting records, deleting a field, or replacing data using the Import or Replace features

Remember, it takes far less time to back up a file than it does to recreate a lost or damaged file.

For more information

This lesson has shown you one way to protect a database. For other ways to prevent and overcome difficulties with your files or recover damaged files, see FileMaker Pro Help.